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JOHN T. BENNETT POË, M.A.



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— TO —

JOHN T. BENNETT-POË, M.A.

THE SIXTY-FIRST VOLUME OF "THE GARDEN"

Is dedicated.

BORN in County Tipperary, in the year 1846, Mr. Bennett-Poë received his earlier education from tutors at home and at a private school; afterwards at Trinity College, Dublin, there graduating successively B.A. and M.A.

He was almost a born gardener, inheriting a love of plants, which became and has continued to be the greatest of his life's interests. Never very robust in health, the open air life of a practical horticulturist has been of great benefit, and has enabled him to acquire a knowledge of plants and of their ways and treatment that is probably surpassed by that of few other living amateurs.

On settling in London in 1889 Mr. Bennett-Poë was pressed into the active service of the Royal Horticultural Society on the Floral Committee and on the Board of the Chiswick Gardens; serving also for ten years on the Council, for some time as Vice-President. Among his other offices in connexion with the Society, he is a Trustee of the Lindley Library, Trustee of the Veitch Memorial, and was formerly Chairman of the Narcissus Committee.

Mr. Bennett-Poë's services have also been given as judge at the shows of the Royal Horticultural and Royal Botanic Societies, and in the same capacity at shows at Dublin, Cork, and Scarborough. His exhibits of rare and beautiful plants have received many honours, and he is well known as a prize winning exhibitor of Narcissi, Tulips, Amiculas, and Orchids.

Mr. Bennett-Poë has been a contributor to the pages of THE GARDEN from its beginning.

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THE GARDEN

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HORTICULTURE IN 1901.

MANY events of horticultural and botanical interest have occurred in the year that has gone—a year of remarkable activity, and the forerunner, we hope, of continued enthusiasm in matters concerning the garden and orchard. The pursuit of gardening is no mere sentiment, a craze of the hour, but the outcome of many years of slow but certain appreciation of the restfulness and refreshing influence of the flower and tree life that gives grace and beauty to the English home.

The tremendous progress of the Royal Horticultural Society is evidence of this deepening love for gardening as well as of admirable management on the part of its officers, whose efforts have resulted in the acquisition of nearly 1,000 new members during the past year. No society offers a more liberal fare for the subscription desired, one guinea enabling the member to receive the important quarterly *Journal*, admittance to the delightful fortnightly displays in the Drill Hall, Westminster, to the Chiswick Gardens, and to the large exhibitions, such as the Temple show and the fruit exhibition at the Crystal Palace. The benefits conferred are more than adequate to the yearly subscription.

Early in the year the question of obtaining a site for a new garden to displace Chiswick, as a fitting means of celebrating the centenary of the society, was considered at a largely attended gathering. It was a turbulent meeting, but the opposition were calmed by the tact of the president, who assured the Fellows that it was the desire of the council to carry out their wishes as to the method of celebrating the auspicious event. Of this we are certain, and so all ended happily. We are sure everything will work out pleasantly for the good of horticulture and the society in the future. A hall of horticulture we shall welcome, but not a hall at the expense of that practical garden work which we must associate always with the Royal Horticultural Society. An experimental garden is a necessity, and if the two can be obtained we shall rejoice that horticulture has made itself so abundantly manifest.

The Lily conference was a complete success. The day was hot and sultry, and in a stuffy tent it is a severe physical tax to listen to a series of lectures and papers, but the whole of the proceedings are given in full in the recently published *Journal*.

While writing of societies we must congratu-

tulate the secretaries and officers of the National Rose Society upon the success of their bold departure to the Inner Temple Gardens, where a feast of Roses was provided in July that charmed the keen rosarian and converted many visitors to a fascinating pastime, as the increased list of members records.

Our obituary list is a sorrowful reminder of the frailty of mankind. Many great and revered men in the world of horticulture have crossed the bar—the Rev. Henry Ewbank, a lovable and earnest gardener; the famous American horticulturist, Thomas Meehan; Cypher, of Cheltenham; Thomas Rochford, prince of market gardeners; Martin Sutton, a leader in horticulture and one of the last century's most conspicuous figures; A. H. Smee, Sir Henry Gilbert, Eleanor Ormerod, and many good gardeners, not least among them being D. T. Fish. Our Continental neighbours have to deplore the loss of Mr. E. H. Krelage, a pioneer of horticulture in Holland, and Maxime Cornu, the French horticulturist attached to the *Jardin des Plantes*.

We again heartily thank the friends of *THE GARDEN*, both old and new, and as we wrote last year we set forth with renewed courage for the congenial field of labour in the cause of gardening in its many ways, from the simple utility of the production of wholesome food to the ministration to the higher human nature through the Divine gift of happiness in the beauty of flowers. Without our contributors progress would be impossible, and whilst thanking those who relate their practical experience in our columns, we are ever mindful of those who give occasional notes to interest and instruct our readers.

Horticulture has become a decided power in promoting the nation's prosperity and happiness. As we have before written, side by side with the bettering of the old gardens is the making of countless new ones, gardens made not only to ensure their definite end, but also leading to an appreciable augmentation of national prosperity in the increased employment of well-paid labour and the advancement of the trades whose existence is the outcome of the needs of horticulture.

The year that has now dawned points to increased activity, and assuredly the prospects of horticultural endeavour were never brighter than on the threshold of 1902, and this in spite of severe competition and a general slackness in the country. Many and important are the events to be celebrated in the present year.

NOTES OF THE WEEK.

Royal Horticultural Society.—The first meeting of the committees of the Royal Horticultural Society in 1902 will be held, as usual, in the Drill Hall, Buckingham Gate, Westminster, on Tuesday, January 14. An election of new Fellows will take place at three o'clock. To prevent misunderstanding, it may be mentioned that the committees of 1901 do not vacate office until the date of the annual meeting 1902, and in like manner all Fellows' tickets of 1901 are available until the end of January, 1902.

The Kew Guild Journal.—The ninth volume of this annual publication will be welcomed by all past and present Kewites. The frontispiece this year is an excellent portrait of Mr. George Nicholson, curator of the Royal Gardens from 1886 to 1901. An illustration is given of the Nepenthes house at Kew, and portraits appear also of Mr. Thomas Meehan and Mr. G. J. Bean, both of whom died last year. The notes from old Kewites resident abroad are even more interesting than usual, and comprise letters from many quarters of the globe. Several who went to South Africa have taken part in the Boer War. The list of appointments of Kew men to responsible positions in various parts of the world is satisfactory reading, as is also the statement that the cricket club was never stronger, both financially and numerically. Through the kindly interest of the Director and Mr. Fitzgerald, of H.M. Office of Works, a piece of ground in the Old Deer Park has been rented for the exclusive use of the gardeners' club. With reference to the British Botany Club, it has been decided in future to limit the number of specimens to be submitted in competition for the prizes to 200. This, we think, is commendable, as it will ensure a far better knowledge of the plants collected than was possible when 600 or 700 were brought together, as has been the case in recent years. The annual meeting and dinner is now an established success; at the gathering in May last no less than 141 Kewites were present. The debating society continues to do good work, several lectures by members of the herbarium staff having been given during the past year, in addition to those contributed by the young gardeners. Mr. W. Watson is the editor of the *Journal*, and is to be congratulated upon the success of his efforts as represented by the ninth volume.

A park from Richmond to Kingston.—Lord Dysart is promoting a Bill in Parliament in connection with his riverside property at Petersham. His proposition is to make over to the public for ever three miles of land (width 150 feet), viz., from Richmond to Kingston, for the purpose of a riverside park. Compensation is desired in the shape of considerable enclosures of lammas land south of Ham village.

Sidecup Rose show.—We are informed by the secretary (Mr. Tyson Crawford, Arundel Lodge, Sidecup) that the Sidecup (Coronation) Rose show will be held on Thursday, July 3. At least two silver cups will be given, in addition to money prizes.

Flowers at Christmas in Mr. Sprenger's garden near Naples.—The finest thing now in flower is *Gerbera Jamesoni*, especially the var. *illustris*, which is deeper in

colour than the type, and has longer and broader petals. Another fine plant from Natal is *Cyrtanthus Mackenii*, with stems bearing six to seven long-tubed white flowers. This *Amaryllid* should be more cultivated by amateurs. The pretty dark blue *Bellevalia Heldreichii* and the light blue *Muscari azureum* are beginning to open their flowers. *Primula megaseaefolia*, crimson-purple, with yellow eye, is already in bloom in quantity; in a few years this jewel among flowers must be in every garden. It does well in pots, and is hardly here at the Castel St. Elmo at an elevation of nearly 1,800 feet in a mixture of peat, leaf-mould, and grit. The Natal *Laburnum* (*Calpurnia lasiogyne*), with long racemes of yellow bloom, is in fruit and flower. *Clematis brachiata*, also from Natal, is covered with the white seed-heads of its second flowering. *Yuccas* are favourites with Mr. Sprenger, and are made a speciality in his garden. His hybrids of *filamentosa* and *gloriosa* are remarkable for their abundance of bloom. After the main flowering in the spring, the young growths from the base will, in the case of some varieties, also flower in the autumn of the same year. There is now a plant which has one stem in fruit and four other stems in flower. The hybrid *Yucca vomerensis* (*aloëfolia* × *recurvata pendula*) is a giant and now in bloom. The leaves are 2 feet 9 inches long and nearly 2½ inches broad, the flower-stem 6 feet 8 inches in height. The stem, peduncles, and buds are red, and the flowers snow-white, with the outside of the outer segments tinted with red. The entire plant in flower has a height of 11 feet 8 inches. I believe that both these hybrid *Yuccas* will prove hardy in England, the first-named without doubt. On a terrace a beautiful object is the fine well-known *Asparagus Sprengeri*, with its long branches covered with red berries. A well-known horticulturist at Erfurt describes this plant as *Asparagus falcatus*. This is clearly an error, as anyone can see that the two species are quite distinct. I take it that this gentleman has not met with the true *A. falcatus*, which is a climbing species with long and broad leaves, or, more properly, *phylloladum*; moreover, it is one-flowered, while *A. Sprengeri* has drooping branches, small narrow leaves, and racemes of ten to fifteen flowers. A large number of other plants are in bloom, but those specially named are among the most interesting; still, among the others may be mentioned *Iris alata*, *I. stylosa speciosa*, *I. stylosa alba*, Paper-white *Narcissus*, *N. Tazetta* (the Sacred *Narcissus* of Japan), *Salvia splendens*, *Cannas*, *Agathæa celestis*, and *Carnations*. The Strawberry St. Antoine de Padoue is also in flower and ripe fruit.—WILLIAM MULLER, *l'omero, near Naples*.

Strelitzia "Reginæ."—I think that a mistake has been made by some one in the name of the stately tall *Strelitzia* figured in the first of the two pictures of Mr. Arderne's garden in THE GARDEN of December 21, page 412, as they are certainly not *S. Reginæ*. This beautiful and brilliant flowered species makes no tall stems like those in the picture. I have now in my stove house a plant over fifty years old, and it has no trace of any stem. I should say that the tall plants shown must be *S. angusta*, figured in the *Botanical Magazine* 71, tables 4167, 4168, a much less beautiful flower than *S. Reginæ*, as the large blooms are white and brown instead of blue and orange.—W. E. GUMBLETON, *Belgrove, Queenstown, Ireland*. [We have also had a note from Kew confirming Mr. Gumbleton's opinion as to the identity of the tall-stemmed *Strelitzia*.—EDS.]

Mr. D. P. Laird.—The members of the Royal Scottish Arboricultural Society will be interested to learn that Mr. D. P. Laird, the director-general of the annual excursions of that society, has been invested with the rank of Justice of the Peace, and has also been unanimously appointed chairman of the Corstorphine Parish Council.

Ipomæa aurea.—Distance belates my reply to Mr. Gumbleton's query of November 2. From his excellent description I think there is little doubt that his *Ipomæa aurea* is *I. tuberosa*. It climbs to the top of the highest trees and showers down the seeds which follow the bright

yellow flowers. These seeds, which are enclosed in conspicuous bladder-like vessels, are black and twice the size of Cherry stones. I planted one of these *Ipomæas* on a Mango, and it has killed it. Another threatens to overwhelm a Sweetwood. Fine as it is with its sheet of bloom I am thinking of doing away with it—it is so rampant in growth, and so much time is taken up in the necessary work of destroying the many seedlings. It is called Seven-year Vine in English, but I never heard its Spanish name. The Vines are nearly as thick as my wrist, and a single plant will cover an enormous space. I should not let it grow big in a hothouse.—W. J., *Port Royal Mountains, Jamaica*.

Chrysanthemum Mrs. William Filkins.—*Chrysanthemums* which flower in December and later always possess a special value, and it would be difficult to find a more interesting and pleasing decorative plant than this variety. The earliest batch of plants made a welcome display during the latter part of November and the earlier half of December. The charming spidery blossoms are so elegant and dainty that they were always welcomed as good flowers for indoor decoration. The later batch of plants, however, are more highly prized. The flowers are of bright yellow colour and last for a considerable length of time. The habit of the plant is not all one would desire, yet of the spidery sorts this is one of the best. It is rarely more than 4 feet high, and the glass structure in which the plants are housed has been absolutely cold, no heat whatever being turned on since the plants were housed in the early days of November. During periods of severe frost, the house has been completely closed, ventilators and doors never being opened until milder weather has ensued. So far none of the blossoms have shown any signs of damping, and this is a peculiarity noticeable in most *Chrysanthemums* flowered on terminal buds. For vase decoration it is difficult to conceive a more pleasing and striking example of decorative work at this season, the display being most effective.—D. B. C.

Presentation to Mr. Meyer.—Mr. F. W. Meyer was recently entertained by the employé's of Messrs. Robert Veitch and Son at dinner to commemorate the completion of his twenty-fifth year of service with the firm. Mr. Meyer was presented with a smoker's cabinet and a case of Peterson's pipes, together with an illuminated address, subscribed for by his fellow colleagues, as a token of the high esteem in which he is held by one and all of them. Mr. Meyer was also the recipient from Messrs. R. Veitch and Son of a cheque, accompanied by a solid silver salver.

Open ground Auriculas.—Just now these plants, whether in pots in a housed frame, or in borders, or on rockwork outdoors, do not cut very attractive figures. During so much of the winter as has passed the outer leaves have died away, and generally there is little left but green, round, slightly conical buds of hard leafage, singly or in clusters. It is all well when that is so, for within those modest and unobtrusive crowns lie hidden beauty, colour, form, and loveliness of the most delightful description. These dormant buds are but awaiting the approach of spring to open, expand their leaves, then blossoms, and once more to resume their place in the world of life and of beauty. It is then they in common with all Nature respond to the power of warmth and of light. Let the sun shine, let the soil be gently heated, let light become abundant and they can no longer resist. Neither need they. The season of recuperation has come, and its demands must be met by immediate consent. But whilst this season of rest prevails the gardener may do something to help his plants when growth does commence. He can lightly stir the surface of the soil about them, even if in pots, remove some that may seem poor or exhausted, and replace with a compost of sifted loam, old hot-bed manure, well-rotted leaf soil, sifted old lime refuse, and some sand. A mulch of this mixture should be laid about the crown. The soil partially washes into the roots and invites to surface root action quickly, for whilst

the crowns are at rest the roots are not necessarily so. In any case new spring leafage soon creates new roots near the base of the leaves, and these revel in the new dressing thus applied, rendering foliage more robust and flowers finer and of brighter hues. We may treat *Polyanthuses* and *Primroses* in the same way with good results, as the spring bloom will show.—A. D.

Coleus thyrsoides.—I have now a fine display of good spikes of the lovely winter blooming *Coleus thyrsoides* in my conservatory, which is most valuable at this dull flowerless time of year. A fine lot of the free blooming vanilla-scented *Eupatorium petiolare* is also coming into flower. No winter greenhouse should be without this new variety, which came to me from Darmstadt as *E. Purpusi*, but was pronounced at Kew to be correctly named *petiolare*. I have also now in full bloom a fine pot of the late *Nerine Manselli* with nineteen spikes of flower.—W. E. GUMBLETON, *Belgrove, Queenstown, Ireland*.

Poinsettias for decoration.—Since the forcing of imported bulbs has become so common for the supply of decorative material through the winter less attention is paid to the cultivation of other plants suitable for the purpose, and of these none is better than the old *Poinsettia pulcherrima*. The brilliant scarlet bracts are welcome about Christmas time, and nothing else gives such colouring under artificial light; but the value of *Poinsettias* depends very largely on their treatment. The long, lanky plants that are grown in the stove are of little use, because they quickly flag when they leave their warm quarters, and the foliage soon curls up under the altered conditions. Valuable, on the other hand, at this season are the sturdy dwarf plants that were raised from cuttings in the spring, and have been grown in a cool pit through the summer. The stems are stout, the leaves leathery, and, being dwarf, the plants may be used in many ways.—H.

Luculia gratissima.—This beautiful shrub, first introduced from the Himalayas in 1823, forms just now one of the most notable features in No. 4 house at Kew, being laden with its large clusters of pink sweet-scented blossoms. It is by no means invariably met with in such good condition as at Kew; indeed, complaints as to the absence of bloom are made frequently. This is often to be accounted for by the fact that it is generally referred to as a greenhouse plant, and this term being a very elastic one, a structure from which frost is just excluded and nothing more is by some considered sufficient for its requirements. Though it may exist under such conditions, it needs a structure with a minimum temperature of 45° during the winter to bloom well. The light buoyant atmosphere which is always maintained in the greenhouse at Kew is such as it delights in. This *Luculia* should, if possible, be planted in a well-drained border, as under such conditions it does much better as a large plant than in pots or tubs. A second species, *L. pinceana*, is also in cultivation, but as far as my experience extends it is inferior to the older and better known species as a garden plant.—H. P.

Begonia manicata aureo-maculata.—Most of the *Begonias* grown for their ornamental foliage consist of forms of *Begonia Rex* or of nearly allied species. *B. manicata aureo-maculata*, however, is quite different, as though it forms a short stout stem *B. manicata* itself has long leaf stalks, which towards the upper part bear whorls of reddish fleshy scale-like hairs, while the blade of the leaf is of a smooth shining green. The pink flowers, which are disposed in upright branching panicles, are individually small, but from their numbers produce a pleasing effect during the early months of the year. From the typical kind the variety *aureo-maculata* differs in the leaves being irregularly blotched and marbled with golden yellow, sometimes to such an extent that the major portion of the leaf is of the last-named hue. Well furnished specimens are particularly effective during the dull days of autumn and winter, the contrast between the golden blotches and the bright shining green of the rest of the leaf being very marked.—H. P.

A Lily query.—In an old book entitled "A Complete Florilege, furnished with all requisites belonging to a Florist," by John Rea, Gentleman, 1676, quite a long list of Lilies with their descriptions is given, and some of it has furnished considerable food for reflection. Most of the European species can be recognised, though many of the names are unfamiliar. The principal difficulty is with the following: "Lilium Martagon canadense maculatum. The spotted Martagon of Canada may serve to bring up the rear, and follow the Mountain Lilies (*L. Martagon*), for that the green leaves grow on the stalk in rundles, the root of this stranger is smaller, and the stalk lower than any of the former, bearing four or five flowers on long foot stalks, in form like a red Lily, hanging down their heads, of a fair yellow colour with many black spots on the inside." This, of course, is *Lilium canadense*, which was introduced in the year 1629, or earlier. "Later on comes *L. Martagon Virginicum*. The Virginian Martagon has a close compact scaly pale yellow root, from the sides whereof, more frequently than from the top, come forth the stalks, about 3 feet high, set with small sharp pointed whitish green leaves in rundles, bearing at the head three, four, or more something large flowers, turning back like those of the Constantinople Lily, of a gold yellow colour, with many brown spots about the bottoms of the flowers, with the points of the leaves (petals) that turn up of a red or scarlet colour, and without spots. This is a tender plant and must be defended from frost in winter. There is another of this kind that beareth more flowers on one stalk, differing from the former in that these are of pale colours but spotted as the other." Perhaps this stands for *L. superbum*, which is decidedly variable in colour, if so it must have been introduced before 1727, the date given by most authorities. Some instructions for the cultivation of Lilies in general are given, the writer concluding thus: "As for these tender Martagons of Canada and Virginia they will not endure to stand abroad, but must be planted in the richest and hottest earth that can be gotten, in boxes or large pots, and set in some cellar in the winter where they may not freeze." Like many other exotic plants these Lilies have proved to be harder than was at first supposed. —H. P.

MIDST CHINESE FORESTS.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—Before going to China in 1881 I had no training in botany, and was quite ignorant of gardening. I had always been fond of walking and of long excursions, and cared little for games. Shooting has never stirred my blood. I prefer to keep still and listen to the birds and the drowsy hum of the bees. I love to watch the antelope as he lies asleep on the ledge of the cliff far below, the leopard crawling in the dusk over the rocks, and the wolf as he trots in the moonlight along the path by the maize field. I have heard the lark sing high over the grassy downs in South Formosa, and my heart throbbed in glee. Often seated on the mountain top, gazing through the lattice made by the thick growth of the small bamboos, I saw far off the square fields of man in the valley, and wished that he had never spoiled the planet. Yet, when in Yunnan I escaped from the civilised Chinese and reached the log huts of the Yao hunters and the villages of the Lolos, I was glad, for these were primitive people and seemed part of the forest itself. So much of personal details, to explain how my liking for wild places naturally led to my becoming a collector of plants.

After some months in Shanghai, I was appointed in 1882 to Ichang, then the end of navigation by steam on the Yangtze, a port a thousand miles from the sea. Opposite the town the great river is already nearly a mile wide, and is beginning its course in the great plain. It has just made

its exit, a few miles further up, from the mountains, through which it cuts its way and tumbles along in wild rapids or glides through dark silent gorges. These mountains and gorges were my playing ground, and I began to collect plants there in 1885. On the sides of the river are countless glens, often narrow as a house, and with vertical walls, a thousand feet or more, reaching to the sky. Each ravine has some peculiar plant, and this is the feature of Western China, the astonishing richness of the flora; each new valley and range yields some new species. When on the march I always reckoned on meeting a different species of *Rubus* each ten miles of travel, and was never disappointed. Western China is the back of the Himalayas. This great chain presents its steep face as a wall to India; its sloping side descends by successive terraces through Tibet, Yunnan, and Szechuan, to sink at Ichang into the great plain, which is there not a hundred feet above sea level. No such deeply-cut-up region exists elsewhere on the earth, hence the diversity of its plants, which are all the more interesting in that most of them can be grown in the open air in Britain.

I ought to explain that my botanising began accidentally; and as I had had no previous training or knowledge, it was mainly successful because I was the first comer, a pioneer digger in a glorious gold-field. The first plant which I collected and dried was *Clematis Henryi* (Oliver), a species with large simple ovate-acuminate leaves and white waxen flowers, which peep out of the snow in February. Luck has kept with me from the start, and many new genera and hundreds of new species have fallen to my trowel and knife since that day. If I were asked what were the

MOST BEAUTIFUL PLANTS THAT I HAVE SEEN, I should answer: Amongst trees, *Paulownia Fortunei*, which in Yunnan ravishes the eye



FIGUS SP.—LARGE TREE NEAR SZEMAO.

(This photograph shows very well the scanty foliage of many of the large species of *Ficus* in Yunnan.)

with its myriads of violet Foxglove flowers, and the new species or variety of *Rhodoleia*, a giant tree in the great forests south of the Red River. Yet there are *Rhododendron* trees, several species, which are perhaps more lovely than these. Of shrubs one may mention *Lonicera Hildebrandiana*, many new *Rhododendrons* and *Azaleas*, *Ilex Pernyi*. Of the great climbers there are *Rosa gigantea*, the wild forms of the *Rosa Banksia* and *Rosa indica*, and a certain *Porana*, which covers the barren rocks with a mass of flowers shining with metallic bluish-grey lustre. I prefer amongst herbs some of the *Cyrtandraceae*, of which there are now perhaps a hundred species known from China; these have a delicate beauty, and recall the beautiful spots where they grow under the waterfalls in the dark recesses of the mountain forests. Of showy plants there comes to my mind the tall *Gentian* found in a deep ravine north of the gorges, which has been named *Gentiana venosa*. It has the port of a Lily, is six feet high, and bears ten or more large white flowers (they are three inches in diameter) spotted with green. Many useful plants are also found, as *Eucommia ulmoides*, a tree which has gutta-percha in every part of it; break bark or leaf or fruit and draw the parts asunder, they are held together by a delicate film of silvery threads of gutta.

During the years 1885, 1886, and 1887 I myself had scarcely gone away thirty miles in any direction from Ichang, as I was continually finding close at hand new and interesting plants; and, moreover, I had begun to employ natives living in the distant mountains, who collected for me. I used to sail up the first gorge of the Yangtze, landing at the mouths of the ravines. The water rises in summer, often in two or three days, sixty feet in the wider part of the river, and over a hundred feet in the narrow defiles, burying many plants in red mud. Under such conditions one finds

growing *Myricaria germanica*, *Wendlandia Henryi*, a dwarf variety of *Distylium racemosum*; a narrow leaved form of *Cinnamomum pendunculatum*, *Salix variegata* (a willow six inches or so high), etc., all shrubs of no great size confined to the banks of the great river.

BY THE MOUNTAIN STREAMS

there is another special flora of which *Cornus paucinervis*, a pretty Dogwood, is representative. These fluviatile shrubs deserve further study.

On the rocky walls of the gorges and glens, along the ledges of the cliffs,

PRIMULA SINENSIS

is seen. This is the only situation and the sole place where this commonly cultivated plant occurs in the wild state. It grows where there is not a particle of soil on the dry ledges, amidst the decayed leaves of former generations. Following the line of these ledges, often several hundred feet horizontally, in January there are festoons of the plant in flower, scenting the ravine with the odour of the primrose. *Primula obconica* is another plant which we have obtained from Ichang, where it is a common weed growing by the side of every ditch. Higher up, on the grassy slopes of the cliffs, is

LILIUM HENRYI,

which loves the wild open heights and scorns the shelter of the glens. I do not know whether to say it with joy or sadness, but this plant is more glorious in cultivation than in the wild state. On the cliffs it rarely grows taller than three feet, bearing one or two flowers at the most. What it is in cultivation was best seen last summer in the Temperate house at Kew, where its tall curving Bamboo-like habit made it wonderful even amongst Lilies. *Lilium Brownii* and its splendid variety *leucanthum* always occurs in the glens, in shelter but not in shade. One of the prettiest shrubs in the Ichang glens is *Itea ilicifolia*, which has leaves like yet not the same as the common Holly, and racemes of white flowers six inches long. On the tops of the glens the common Holly itself is common. It is only far inland in the higher mountains that the gem of Hollies, *Ilex Pernyi*, is met with. It has prickly small leaves, scarce three-quarters of an inch long, and deep red berries. The non-prickly leaved Hollies around Ichang are legion; many of them are beautiful, as they excel in gloss of leaf. One of these, *Ilex corallina* (Franchet), is used by the poorer natives as a substitute for tea. Of

THE MANY FINE SHRUBS

in cultivation at home, China and Japan surely supply the greater share, and the history of some of these is not at all clear. Many species named japonica are not known in the wild state in Japan; but were brought into that country from China. Apparently also Chinese gardeners of Nankin, Soochow, Hangchow, and other great cities of refinement and luxury must have hunted in early days in the mountains about Ichang for plants. It was from there that *Primula sinensis*, *Chimonanthus fragrans*, *Rosa indica*, the Banksia Rose, and the Chrysanthemum, to mention only a few ordinary cultivated plants, must have come. The wild forms of these plants do occur at Ichang, and scarcely anywhere else. This town has always been accessible to the Chinese from a remote period. There they have ever kept watch on the great river even when long ago the mountains were inhabited by fierce savages.

There are no forests near to Ichang. The charcoal-burner and the wood-cutter, with

easy access to markets by the river, have left little of the arborescent vegetation, save in the depths of the ravines and on the faces of the almost vertical cliffs; yet these localities have treasured for us many interesting species, such as *Chimonanthus nitens*, an evergreen shrub of which I never saw aught but a single specimen in an out-of-the-way ravine. Woods, however, are to be seen at Ichang, in the vicinity of the temples and villages. In the wider glens there are beautiful copses of *Cupressus funebris*, a tree apparently to be met with wild only in Hupeh. Through its densely growing narrow stems and branches, the Reeves' pheasant with his six foot tail and heavy turkey-like body steers his way. Peacocks and pheasants of all kinds, birds with troublesomely large and long tails, are generally wont in China to live in the thickest parts of the woods and forests. I cannot refrain from alluding here to a jay, which puzzled us at Ichang for several years. This jay is like the pin and thrum-eyed Primroses: there is one female form, a little brown bird with a short brown tail; but she has two mates, one white with a long white tail, the other brown with a long brown tail. Many were the arguments as to the number of species of jay here involved; but there was only one.

The coolies whom I employed to collect in the distant mountains brought me so many plants unknown in the immediate neighbourhood of Ichang that I made up my mind to take a long trip. I obtained six months' leave of absence, and from April till October, 1888, I wandered amongst the high mountains of the interior, south-west and north-west of Ichang. I twice reached the province of Szechwan, and returned eventually down the hundred miles of wild scenery of the gorges and rapids. I hardly enjoyed this trip, which only took ten hours of actual sailing time, as the river was in high flood. I was in a small boat, with twenty of my men and a precious freight of a dozen or more boxes of dried plants, and I knew that the slightest accident, a wrong turn of the sweep, might involve the loss of these boxes.

This trip was even to me a revelation, especially in its northern half, when I reached the grand chain which separates the Yangtze and the Han River basins. There the mountains rose to 10,000 feet altitude, and were clothed in their upper parts (from 7,000 feet to 10,000 feet) with

GREAT CONIFEROUS FORESTS,

made up of various species of *Abies* and *Tsuga*. The average height of the trees was two hundred feet, with trunks of about four feet in diameter, straight as needles, the upper branches often broken by the weight of the winter snows. In the depths of these forests scarce a ray of light could penetrate, and there was a thick growth of small bamboos, rendering progress impossible. Here and there were great tracts covered by huge Birch trees, the species being *Betula utilis* (Don). Its bark is distinctly red, and it grows to an immense size. I had a good opportunity of judging, as I once came across about two acres of these trees, which had been blown down by some tornado not long before. Their great roots had been torn up out of the ground by the fierce wind and lay on the ground like ships in a dockyard. Another Birch, *Betula Fargesii*, with blackish bark occurs at high levels. The Birch of the lower mountains has a white bark, and is *Betula alnoides* (Ham.) var. *pyrifolia*. On the summit of the mountains, at 9,000 feet to 10,000 feet, copses of Rose trees are met with, often a

mile or more long. I did not see these in flower, only in fruit, and so missed a glorious sight. This species is *Rosa sericea* (Lindley). It is quite erect, forming a tall shrub or small tree. On the grassy parts of the high ranges numerous herbs were to be seen, turning the mountain meadows into flower gardens. I remember of these the many beautiful Gentians and Swertias and the numerous species of *Saussurea* with captivating foliage. *Saussurea Henryi* (Hemsley), which occurs on very high cliffs, is pretty indeed. In the dark depths of the coniferous forests, which were impassable, except where ravines made a way and burns glided down in the shade, it was too cold for most flowering plants; but *Aralia bipinnatifida*, a small herb with half black, half red fruits, and *Rubus Fockeanus* (Kurz), a herbaceous Bramble, creeping like a Strawberry with a few red fruits, thrive well alongside of a pretty alpine Fern *Cryptogramme brunoniana*.

Lower down the forests are nearly always mixed, made up of numerous species of trees and intergrouped with shrubs, climbers, herbs, grasses, ferns, and mosses. In a wood of two or three acres in extent, behind some village in Yunnan, one can easily find more species of trees than occur in all Europe. Occasionally there are uniform forests at lower levels, made up of *Pinus densiflora* or *Pinus massoniana*, or of certain evergreen Oaks, or in Yunnan of *Alnus nepalensis*. These uniform forests are never of great extent and are uninteresting as regards variety; they are too open, and the sunlight prevents the growth of the many shrubs and herbs, which only thrive in deep shade. In the mixed forests one may find anything. In open glades rather high up

LILIUM GIGANTEUM

may be spied miles away across the valley with its gorgeous turret of flowers. At still higher elevations and in complete shade in the mountains to the north I met with noble specimens of *Rheum officinale* (Baillon), the plant from which a considerable part of the Rhubarb of commerce is obtained. This is a glorious plant, having a remarkable rhizome three feet or four feet long, with a bright red cortex but golden-yellow interiorly. Lower down in a dark wood we discovered, in one spot only, a few specimens of *Dicentra macrantha*, a plant much to be desired in cultivation. It grew with such plants as *Podophyllum persipelle* and *Caulophyllum robustum*, but these were common everywhere in certain sites. In an exceedingly dark mountain forest in Fang district in Hupeh, at 7,000 feet elevation, I found *Diphyleia cynosa* (Michx.), an American plant, astonishing to meet with in Central China. In this connection, as illustrating the peculiarities of plant distribution, I may state that the Tulip Tree (*Liriodendron*) is common wild in certain parts of Hupeh. Neither of these American plants is met with in the intermediate station of Japan.

It would be impossible to name all the trees of the mixed forest; many of my specimens are as yet undetermined. Of well-known genera, *Quercus*, *Carpinus*, *Fraxinus*, and *Acer* have numerous species. There is a new Beech with five kinds of Linden, four of these being new species. It was in sandals made of their bark that I used to do my climbing. Some of the new genera are worth noticing, e.g., *Dipteronia*, a very common tree, which is the only close ally of the Maple known; it differs from *Acer* in having pinnate leaves and fruits which are winged all round the margin. *Tetracentron* is very remarkable; it has short lateral branches, on which are borne a leaf and an inflorescence

of many small flowers. This tree grows to an enormous size and is very widely distributed in China. I discovered it in Hupeh, and years afterwards found it again south of the Red River close to Indo-China, where it is common in the forests. *Kalreuteria bipinnata* is another striking tree, with great panicles of yellow flowers and peculiar capsules. It is also widely spread, as it has been found by me in Hupeh, Formosa, and Yunnan. *Emmenopterys Henryi*, belonging to the Rubiaceæ, and with leaves rather like certain Cinchona shrubs, is a tree with one lobe of the calyx modified into a white bract, as in *Mussaenda*. This persists till the fruit is ripe, and serves not only as an attractive organ at the time of flowering, but as a sail to waft the fruit through the air. *Hammamelis mollis* is a tall shrub of the mountains of medium altitude.

It is of course impossible in a paper such as this to do more than glance at a few of the interesting species that happen to come into one's head at the moment of writing. This will account for the desultory nature of my remarks. I will now speak about

could write a long chapter on Chinese Rubi, but I will content myself here with referring to those remarkable for their fruit.

It is very curious, but I have come across amongst these many species only one Bramble with a positively disagreeable taste. This is *Rubus Swinhoei* (Hance). It is a simple leaved climber, with fruit black when ripe and exceedingly bitter. There is a variety of *Rubus roseifolius* (Smith), common in the mountains of Ichang, with beautiful large white flowers. The fruit, when ripe, assumes a hemispherical form, with the centre quite hollow, easily separating from the calyx, and with a most excellent flavour. *Rubus lasiostylus* (Focke) occurs on the high grassy mountains, and bears fruit first white and hairy but becoming pink, excellent to eat, in Hupeh. I sent seeds of this species to Kew, where it flowered and fruited and proved perfectly hardy. However at Kew the carpels were dry and not fleshy, differing evidently from the luscious product in the wild state. This plant is ornamental, and is figured in the *Botanical Magazine*, t. 7426. *Rubus Grayanus*

(Maxim) has large conical red fruit, good to eat. It is common in the mountains south of Ichang. *Rubus peltatus* (Maxim) is an erect shrub, about four feet high, with very strange fruit. Ripe they are the size and shape of a man's thumb, and have a delicate, somewhat acid flavour. Of this *Rubus* apparently very little is known. It was first found in Japan, where it is very rare. *Rubus simplex* (Focke) is herbaceous, creeping by roots, an inhabitant of the higher mountains, with red edible fruit. Its nearest of kin is common *Rubus saxatilis*.

Rubus pungens (Cambess) has large red fruit, somewhat sour in flavour. *Rubus nirens* (Wall.) occurs in several forms. The tri-leaflet variety has bluish black fruit, not very good to eat. The five leaflet form, only met with at a very high elevation, has fruit of a leaden black colour, extremely pleasant in flavour. *Rubus hypargyrea* (Edgw.) is perhaps a variety of this species; it has fruit remarkable in colour, a peculiar drab, like the colour of wood-ashes.

Rubus pileatus (Focke), a new species, is a large climber with most peculiar fruit, exactly the shape of a mushroom. The fruit is red and good to eat.

As I am here touching upon the subject of Rubi, I may include the common ones of Yunnan. Everywhere in South China one meets *Rubus moluccanus*: it has a variety in the high mountains, with somewhat differently shaped leaves and bearing flowers and fruits underneath the branches, so that they are practically invisible to all except small animals and insects keeping close to the ground. *Rubus ellipticus* (Smith) is very common in two well-marked forms; the forest form has large, broadly-ovate, soft, acuminate leaflets, and bears fruit scantily; the form

of the open barren dry plains and rocky mountains has small, broadly-obcordate, hard leaflets and numerous fruit. The fruit is yellow and decidedly agreeable. If anyone wishes to cultivate a Raspberry in barren, dry, rocky deserts, let him try this *obcordate* form of Yunnan. I saw this species in Ceylon, and there its leaflets were intermediate in character. This species is a very good example of varieties which have been developed in direct response to environment.

CURRENTS

were common wild in the higher forests of Hupeh in the northern mountains, and were splendid to eat. One species akin to *Ribes japonicum* has very long racemes of black fruit, I do not wish to say how long, but there are doubtless specimens at Kew to see. This shrub should be introduced. Another species high up is marked at Kew as being doubtful *Ribes nigrum*. Near this locality I came across a solitary specimen of the common Gooseberry. It was sour enough to eat, but the find was very interesting and gave me great pleasure at the moment; it is the most easterly record for the species. Before, the Gooseberry was known to extend as far east as Cashmere only.

Actinidia is a genus little known in England. It has a good many Chinese species, all great climbers, simulating the Grape Vine rather in habit and appearance, and belonging to Ternstroemiaceæ; the flowers are snowy white. *Actinidia sinensis* (Planchon) produces in the wild state excellent fruit about the size of a big plum, somewhat ellipsoidal in form, with a papery epicarp, and full of edible pulp containing minute seeds arranged in a circle. This climber would be perfectly hardy in this country, and the fruit would be a great acquisition I think.

There are a great many other fruits of course, as the various species of *Benthamia*, and I was almost going to forget the wild spiny *Vitis*, which has excellent fruit of a large size, and seems to me the sort of plant that would put life and vigour into the exhausted common Vine. I will, however, further only mention the curious *Pyrus Delavayi* (Franchet) of Yunnan. This produces large fruits, fairly edible, like an apple in shape. Ordinary *Pyrus* has two ovules in each cell, and the Quince has numerous ovules. This Yunnan species is intermediate, having four ovules; it is a large tree, and its fruits are big enough to suggest that under cultivation they might develop into something good and new.

I shall conclude my remarks concerning Ichang with a few notes about some plants.

Davallia, a large tree, bears thousands of flowers, which are most peculiar. Inside a pair of white bracts, about the size of the hand, is a head of numerous red anthered stamens, out of which projects a champagne bottle-shaped gynæcium. This tree, in full flower, is a marvellous sight, owing to the alternate white and green, caused by these large white bracts intermingling with the leaves. Numerous seeds of it have been sent home by Messrs. Veitch's collector, Mr. Wilson, and they are germinating, so that we may expect this new and striking tree to get into cultivation very soon.

Hypericum longistylum is an elegant shrub, with small leaves and flowers two inches across.

Ipsopyrum Henryi, a mountain herb, is pretty, with blue flowers one inch in diameter.

Oligobotrya Henryi is a common Liliaceous plant of the higher forests, with white flowers in a terminal inflorescence, thus differing from *Polygonatum*, which in other respects it



LIBOCEDRUS MACROLEPTIS (BTH. ET HOOK.).

(A Conifer peculiar to Yunnan—a tall pyramidal tree with white bark.)

THE WILD FRUITS

which we, myself and my coolies, used to enjoy on these excursions, and which could doubtless be improved by selection and crossing. Everyone in China and India knows the very deceptive Strawberry called *Fragaria indica*, which has delicious-looking red fruits, absolutely without flavour. This species has yellow flowers, and is always met with in the lower levels, at least in the latitude of Ichang. High up in the mountains, both in Hupeh and Yunnan, we met *Fragaria elatior* (Ehr.), a Strawberry with white flowers and whitish fruit of good flavour. It always occurs on barren or grassy ground in the open, often in great quantities, and never in the forests or on cliffs. In the dark depths of the forests at 9,000 feet, north of Ichang, *Fragaria collina* (Ehr.) is seen with pink edible fruit. I have collected of *Rubus* probably sixty or seventy distinct species; not meaning by species the trivial distinction which is imported into the word when British Brambles are concerned, but meaning really different plants which no one would unite together. Many of these Brambles have fruit of exquisite flavour in the wild state. One

resembles. The flowers are white, gamophyllous and hypocrateriform.

Petrocosmea sinensis is a lovely little Cyrtandraceous plant with violet flowers and pilose leaves, which cling closely to the rocks on which the plant grows.

Abutilon sinense is a tall and striking shrub, with flowers two inches to four inches across. It is of wide distribution, as it has been found not only at Ichang, but in Yunnan, south of the Red River.

I left Ichang in March, 1889, and then spent a few months in Hainan. I became there very ill with malaria—the people all around me, including my own servants, were dying of cholera. I went about as long as I could, but had to lie down one afternoon when the heat seemed greater than usual; it was, as my own temperature showed, 104°. I was sent away to Hong Kong, and from there went home for a time. I did not collect much on this account in Hainan; still there were interesting species in my collection from that island. I much regretted this illness, as I had hopes of penetrating into the mountains of the interior of the island, which are unexplored as yet. The island has curious aboriginal people, much dense forest in the mountains, a great number of wild animals, and I often wonder why yachting expeditions never explore it. After returning to China from my first home leave, I spent some time in Shanghai; but had subsequently two years in Formosa, 1893 and 1894. I collected there about 2,000 numbers, and made some interesting trips into the mountains which are inhabited by savages of Malay origin. Never shall I forget my first sight there of savages—one morning that I visited the neutral ground whither they came armed to barter with the Chinese. They were a band of forty, led by two chiefs, the younger of whom wore a coronet of boar's teeth. A few women accompanied them, wild creatures, dressed for the occasion in longish robes. I noticed that they were tattooed transversely across the wrists. The men were longitudinally tattooed on the wrists, and wore only an apron. Their hair hung down unkempt in wild disorder, and their rolling eyes were never steady for a moment. Dwarf in stature, they scarce looked like human beings, and the old Spanish priest of the mission, where I had stayed the night before, assured me that for all practical purposes they had no souls. They warred continually with the Chinese of the plain, chiefly to decorate their huts with the skulls of the latter, and no young savage was allowed to wed until he had brought home one skull. It was impossible for me to enter their territory here, and a slight excursion, which I made up a ravine for two or three miles into the mountains, was most uncomfortable, as my Chinese coolies were in abject terror. I succeeded later in penetrating savage territory from the South Cape, much to the south of the tribe just referred to. My botanical collections in Formosa were fairly interesting, but I was unable to touch the higher mountains, which will yield a great deal of charming novelties I am sure. The flora of these mountains should be very like that of Central China.

It was in Formosa that I first made acquaintance with

MANGROVE SWAMPS,

and I used to visit those very insalubrious, hot, steamy sulphuretted-hydrogen odorous places about once a month, in the hope of finding some novelty, but only succeeded in getting the very interesting shrub *Myoporum bontoides*, one species of a small Australian and Pacific family. It is a littoral shrub, and is rather

pretty with purple flowers. The finest and biggest tree in Formosa is *Acacia Richei*, which has no true leaves, the enlarged leaf-stalks serving as leaves.

I have given a popular account of the Formosa Flora in the Kew Bulletin for March and April, 1896; and to this I would refer anyone interested, as nothing special about the plants of Formosa has since been published, save my own paper in the Transactions of the Asiatic Society of Japan, vol. xxiv., entitled "A List of Plants from Formosa." The latter paper is not very accessible, but it is much fuller of information than the one in the Kew Bulletin.

I left Formosa at the end of 1894, was in England all 1895, and, returning to China in 1896, was appointed to Mengtse and Szemao successively in the province of Yunnan. I had once deemed Ichang in Central China lonely and out-of-the-way, but Szemao totally eclipsed Ichang in these respects. It is farther off, I imagine, in point of postal time and facility of getting stores, than any other station on the globe where white men do reside. I stayed in Yunnan till the end of last year, and collected with great vigour. I found the native non-Chinese races there full of interest. My plants from Yunnan are labelled with numbers running from 9,001 to 13,826. I intend, I hope, very shortly to publish some connected account of my experiences, touching mainly on wild plants and primitive people.

Meanwhile, the reader is referred for a few notes on the Flora of Yunnan, and other things incidentally, to the Kew Bulletin for 1897, pages 99 and 407, 1898, page 289, and 1899, page 46. My greatest find in Yunnan was probably the remarkable new genus of Ferns, *Archangiopteris*, the sort of thing, I believe, that concerts with the *Myolodon* and other dead and gone fossils rather than with the living things of to-day. The tract of mountains extending on either side of the frontier, which separates Yunnan from Burma and Indo-China, is the richest in Ferns now known. Many of these are lovely new species.

While the mention of these recalls to me those wonderful mountains, dark forests, ravishing ravines, and those delightful people, the Lolo farmers and Yao hunters, allow me to sign myself, yours very truly

AUGUSTINE HENRY.

THE FRUIT GARDEN. FRUIT EVAPORATION AND DRYING.

UNDER the auspices of the Devon County Council a lecture was delivered in Paignton Public Hall recently by Mr. James Harper, of Ebley, on "Fruit Evaporation and Drying." Mr. W. M. G. Singer, C.C., presided over a good attendance, and the proceedings were most interesting.

The Chairman said the question before them was a very important one, as giving the means to fruit growers throughout the country of preserving their produce when they had not got a ready market. A few years ago, when he was in British Columbia, a fruit selling industry was just started, and the producers had great difficulty at times in getting rid of their produce, the loss one year being very serious, as the middlemen offered such low prices, and the railways asked such big freight, that the fruit was left to rot in the orchards because they could not find an outlet for it. The growers combined to find means of getting rid of the produce, and the result was that a factory was started, where ever since they had been able to

dry and evaporate all their fruit and made a great success. In many cases in this country the difficulty would be overcome if people were able to evaporate and dry their fruit and wait until such time as they could find a better price for it. He then introduced the lecturer.

Mr. Harper said he had come to tell them of the method of dealing with surplus produce, which was not treated with that amount of business acumen in England as it was in other parts of the world. The County Council had felt that something might be learnt from a wider knowledge of the methods adopted in other parts of the country for dealing with fruits and vegetables, and after having appeared on several platforms in other parts of the country it was his peculiar good fortune to come and deliver a lecture here, than which there was no district in Devonshire or England which grew finer or better fruit and vegetables. In this immediate district some of the finest cider in England was made. Few growers could make a living out of Apples, and the wretchedly bad prices that they got in Devonshire generally for fruit was a disgrace to them as business men. He found there was not that amount of classing of fruit which should be done. When he got fruit brought to him to be dried it was a most extraordinary thing that all the large, best fruit was on the top of the basket, and the small and bruised at the bottom. That was a most serious matter, and was the reason why crops of fruit did not pay as they should. In Gloucester market he bought Apples at less than a halfpenny per pound, of all sorts and sizes. He took them home and classed them, and before the next market sold them at 3d. per pound, because he gave a written guarantee that nothing but really sound and even fruit was in the basket. It was always better to send only the good fruit and keep the other back. As to that kept back, he admitted that in the past there was a great deal of difficulty in dealing with this side of the question, because in this country there was no attempt to do anything in the way of grading. At Covent Garden market American, Tasmanian, French, and other fruit was graded very correctly, because it paid the foreigner better to send only the best to market and to dry the remainder, and tradesmen supplied customers with these Apples. He would show them what Apples to pack, and ask them as business men to set about making better prices. During the last twenty years his firm had bought something like 15,000 tons of Apples in Devonshire, and he told them that some of the finest and cheapest Apples were sold in Devonshire. A little more knowledge would enable them to make a better return for the fruit they grew.

There was the difficulty of being a long way from the markets and the fruit was softer than that in the Midlands, and consequently it did not travel so well. To dry, therefore, was of more importance than to those in the Midlands, and if it paid them there it would pay them in Devonshire very much better. When dried much of the moisture of the fruit was taken away, and this made the carriage of produce very much less. The fruit grown in Devonshire was, in his opinion, superior to anything else grown in England, and if they were to pay more attention to their orchards than they did they would be able to grow infinitely much better fruit. All Apples were divided into three sorts—the sweet, acid, and bitter-sweet, which were good for cider. He believed in cider being made from the very best fruit. Taking the average of the last ten years' prices in Devonshire were 30s. per ton. Some Apples were not good for cider, and were better kept out, because the public preferred sweet and not acid cider. In order to dry a ton of Apples at 30s. per ton they had to get through the operation of paring and coring. He had a machine which was capable of paring and coring 15 cwt. of Apples a day. This was supplied at £2, with 10 per cent. on account of increase of manufacture, making £2 4s. English firms would want £15 for a similar machine, but they could get it at the price named because over 1,000 were in the hands of American farmers. Therefore it was placed well within the reach of those who liked to undertake the work now. He would allow 12s. a day for labour, and

4s. 6d. for coal per ton of Apples. One ton yielded about $2\frac{1}{2}$ cwt. dried rings, $3\frac{1}{2}$ cwt. cored Apples, or $3\frac{1}{2}$ cwt. of Pippins. They were packed usually in 56lb. boxes, which could be had at say 1s. each, coming to 5s. in the whole. When they had done that he assured them it was all that was necessary in the way of drying Apples. No particular intelligence was required; they had to use a certain amount of judgment in the fires. It worked out at 30s. for the fruit, 12s. labour, 4s. coal. 5s. boxes—£2 11s., and he sold all his rings out of some of the commonest Apples this year wholesale at $4\frac{1}{2}$ d. per lb.; $2\frac{1}{2}$ cwt. at $4\frac{1}{2}$ d. per lb. was £5 5s. Some people used lots of argument against it.

One man told him that rents were too dear, another that rates and taxes were high, though he did not know what that had to do with it. He had been drying fruit for the last three years. It was a very paying hobby, and of much advantage in clearing off surplus and windfalls. The answer to the question "Where is your market?" was in Devonshire. He had not been to a town in Devonshire yet but what the grocers were selling Apple rings and Pippins from America. He understood that in the immediate neighbourhood they grew a large number of Plums, and he had bought them at 1s. per cwt. In a plentiful season a large number of Plums were practically wasted. He made an awful hash of the first lot of Plums he dried, but in six weeks his wife dried enough to pay for a small evaporator, as they did not need to buy foreign Prunes. Then he bought a larger one, and it was now doing well, and if they would dry Plums he would pay them a decent price for them. He made the mistake at first of putting Plums into the great heat first, but now he filled them from the top, where there was the least heat, and brought them down to the greatest, and that made all the difference between success and failure. In Austria and Hungary scores of thousands of tons of Plums were dried every year. In France the crop was over 900,000 cwt., and in America they were planting thousands of acres to supply the English market. When Plums were so ripe that they were no longer fit to travel they were put into a machine such as he had on view, and the trays were gradually filled from the top until all were full. They were turned about several times, for twelve or sixteen hours, according to the quality of the Plums. As to the return, he would pay $4\frac{1}{2}$ d. per lb. for as many good Plums as they liked to dry. Allowing the cost much as before, it worked out at 42s. per cwt., which was better than letting it waste on the ground. He had that morning paid 10d. per lb. for foreign Plums in Paignton. Now he had bought some Damsons in Ireland at 5s. per cwt., these cost very little to dry, and he sold them to a firm in Birmingham for $4\frac{1}{2}$ d. per lb. These were simple plain facts, and it was time something should be attempted in Paignton.

They had a splendid climate and soil; if they had not some of them might be better farmers, for they would clean some of the lichen off the trees, manure them, and make them look as if they belonged to business men. (Applause.) He had with him samples of foreign Pears, but as they did not grow Pears here he would not discuss it. There was already a market for produce grown in England, because he had never in any country tasted better Apples and Plums than those which grew in his own country. (Applause.) It would be asked if the public said so. Why not try to supply the home market in Devonshire at least? From a business point of view this industry was of very great importance. If prices were bad and they could not sell stock at a reasonable figure they could bring it home, but fruit was perishable, and the alternative was to dry it and put it on one side until they could get better prices.

The whole question simply required one or two people to start it. He did not believe in a syndicate, because it made it exclusive. The idea of the County Council was to enable every farmer to make a profit for himself, and he would suggest that they start amongst themselves. A clerical friend of his had started such a concern in Staffordshire. He called twenty men together and formed a little

agricultural co-operative society. They got between them 200 acres of fruit farms, and for each acre taken up they paid about £1, the result being that there was £200 of capital, the bulk of which was not called, and they could borrow money at 4 per cent., because they were formally and severally responsible for the money. He suggested that within two years they would pay off the cost of the machinery by working together. In Ireland 46,000 farmers were co-operating to make the best use of their produce, with the result that they produced the finest butter and milk, and if it was done there it could be done in Devonshire, where the soil was infinitely better. Turning to

DRIED VEGETABLES.

he said Paignton was one of the finest climates for growing vegetables in England. In Evesham, where the climate was not so good, men were making large fortunes out of small holdings—one was paid £3,900 for the unexpired term of a holding of 40 acres. That day he saw about twenty rows of French Beans still standing, but a German would have gathered them when at their highest pitch of perfection, and dried them, and those French Beans were selling at 226s. per cwt. dried. The Germans were supplying the British Government with £20,000 worth of dried vegetables a week to go to the troops in South Africa, and English people were supplying hardly any, whereas it could all be supplied from Devonshire. The same drier who dried Plums would dry vegetables, and whether they liked it or not it cannot be doubted that there is a very large increase in the quantity of vegetables being eaten. He referred to Julienne soup, which cost $2\frac{1}{2}$ d. for less than an ounce packet, and which cost less than a farthing to produce. There was a demand for them here. It was made out of unconsidered trifles, which the

English pig got the benefit of. Potato flour, which would fetch at least £25 per ton wholesale price, was made out of all the smallest Potatoes, and the lecturer went on to refer to dried Peas, for which there was an enormous demand. When he could get it he preferred a dried vegetable to a fresh one. Vegetables must be dried when in the pink of perfection, and he mentioned that he did not eat meat, poultry, fish, Potatoes, or any starchy food, and had enjoyed life more since. He looked upon the question as of the very greatest importance to England as a nation, and it was a serious blot upon their business acumen that they should feed their soldiers upon foreign grown stuff. He admitted they had to buy Wheat from abroad, but vegetables they should produce for themselves, and this drying meant the difference in the case of the grower between profit and loss. If it could be shown that a man could live a healthier life in the country than in the city this thing would be a great boon to England. There was no better place for getting good men and women from than the country, and if they could get

people to come back to the country and make a decent honest livelihood with a few acres of land it would be a great service to them and the country. Mr. Harper quoted the case of a man near Paris who made a huge sum out of three acres of ground which was most scientifically prepared for cropping with hot water pipes and other heating apparatus, and he defied frost with movable greenhouses. If they could make more money out of a small area and supply their own markets instead of sending the money out of the country he ventured to say that the matter demanded most serious consideration. In conclusion, he would say that he had come across a great many men who had got all sorts of ideas of making the world better; but some of them had a vision of that time when the world was more or less a place of perpetual spring, and to-day it was possible with the advance of science to be able to make Devonshire practically a perpetual spring.

THE WHITE WILLOW.

THERE are many trees and shrubs that will prosper exceedingly near the banks of lakes and streams provided they are not planted in the water. But, for positions where the roots have to be partially or almost wholly submerged, there are few so well adapted as the Willows. The illustration is of one of the best of them—*Salix alba* or the "White Willow." The tree is a comparatively young one, and its branches have not acquired the more pendant character that comes with age. But even young specimens, especially when clothed with summer verdure, are amongst the most beautiful of our native trees. The grey



SALIX ALBA (WHITE WILLOW) BY THE LAKE AT KEW.



IN THE CONSERVATORY AT REDLANDS, GLASGOW (THE RESIDENCE OF MR. MURREES).

undersurface of the leaves gives a peculiarly attractive beauty to the tree when its branches are swayed by wind, and the moving shades of its grey and green foliage make it at those times one of the most "living" of garden trees. In association with water it is almost as effective as the Babylonian Willow, and there is not the same danger of its being overplanted as there is with the latter. Several varieties are cultivated, and probable hybrids between this and other species exist. One of the best varieties is *Cerulea pendula*, which has not only a more conspicuous pendulous growth but the undersurface of the leaves is more vividly glaucous. At the present time the timber of the true White Willow is of great value owing to its comparative scarcity and the demand there is for it in the manufacture of cricket bats, &c.

W. J. BEAN.

A SCOTTISH GARDEN.

It is interesting to note how varied are the ways in which the comparatively small acreage of land around town houses is managed, and the use to which it is put. Some have the idea that a stretch of green lawn is preferable to beds and borders of hardy flowers, and so arrange their garden to the almost complete exclusion of the latter. Others, again, grow hardy flowers so abundantly that there is but little space left for a lawn, and many are devoted to the culture of fruits or prefer to obtain their flowers from plants grown under glass rather than from out of doors. Perhaps the best method of all, however, is to endeavour to use one's ground so as to include something of each of the phases of gardening above mentioned. It undoubtedly is the most useful method, and certainly cannot be said to be the least interesting.

Such a garden is the one at Redlands, Kelvinside, Glasgow, the residence of Mr. Murrees. It has also the additional charm of a special feature, as all good gardens possess, whether large or small. In this case the feature may not be one that appeals to so wide a circle of gardeners (the word is used in its widest sense) as do other branches of horticulture, but in the interest it gives to those immediately concerned is second to none. We

refer to the plants grown under glass. Besides the delightfully arranged conservatory shown in the accompanying illustration, there are several other houses filled with bright hued Crotons (several of the varieties having been raised by Mr. George Russell, the head gardener), *Lapagerias rosea* and *alba* growing as though Glasgow smoke and fog were unknown; *Callicarpa purpurea*, a charming old plant bearing axillary bunches of violet berries which succeed in conspicuous flowers, and that few visitors to Redlands seem to know; and a variety of other things.

We were much interested in *Lycopodium scariosum*, an extremely rare plant that Mr. Russell has succeeded in growing well. Of the Crotons, perhaps the most striking were *Thynei*, the leaves a beautiful blending of orange, green, and red; *Russellae* (the result of crossing *Disraeli* with *Evansianus*, and awarded a first-class certificate by the Royal Horticultural Society some years ago), a rich yellow; and *Russelli*, crimson.

Orchids are not neglected at Redlands; indeed, the collection of *Odontoglossums* contains some remarkably fine specimens. One plant of *O. Pescatore* had carried no less than 130 flowers on one raceme. Surely this is a record! Such is a brief note of a few points of interest in a northern town garden, and although others are not mentioned it is not because they would be difficult to find, for one might journey far before discovering a garden more brimful of tender plants worthy of record.

T.

COLOURED PLATE.

PLATE 1259.

COLCHICUMS.*

THE Meadow Saffrons which are sometimes erroneously termed autumn Crocuses, form a large genus of hardy bulbous plants, closely resembling each other in habit and flower. In the "Index Kewensis" 120 species and synonyms are enumerated, of which forty are given specific rank. The various species com-

* Drawn by H. G. Moon in the Royal Gardens, Kew.

posing this family have a wide geographical range, for whilst the majority come from Central and Southern Europe, others are found in Northern Africa, Persia, and the Himalayas. Flowering in autumn as most of them do, and being devoid of foliage at the time, they require a groundwork of grass or other dwarf growing plants to set them off to advantage and save the flowers from being destroyed by soil splashes during heavy rainfall, to which they would be subject in a bare border. Therefore they are peculiarly adapted for planting in masses in grassy places near shrubberies, in the wild garden, or by the margins of ponds or streams. The soil should be rich, fairly moist, and well drained, with full exposure to the sun, thus ensuring a thorough ripening of the corn during the summer. Under such conditions they thrive, and many of them increase rapidly, soon forming a cluſter of corns and producing large quantities of charming flowers.

In the rock garden also they may be used for effect in the autumn when little else is in flower, planted amongst Sedums and other similar dwarf growing plants. Though the individual flowers do not last long, they are produced in succession in great abundance, extending the flowering season over a good length of time.

The foliage, which is developed in early spring, bearing with it the seed vessels, varies considerably in the different species, the leaves in some being over 1 foot long and 4 inches broad, whilst in others they are only a few inches long and very narrow.

In classifying the genus Mr. Baker divided the known species into four principal groups, the members of which closely resemble each other.

GROUP I.

Flowers are more or less distinctly tessellated, produced in autumn, whilst the leaves are not developed till spring.

C. variegatum.—A very old and well known inhabitant of our gardens, having been cultivated by Parkinson in the year 1629. Flowers rose colour, chequered with purple-violet. This species is also grown under the name *C. chionense*. Greece.

C. Parkinsoni is closely allied to the foregoing, of which it may be a variety, and from which it differs by its more undulated leaves, which are disposed horizontally instead of being sub-erect, and its clearer colouring and more distinct tessellation. Synonyms of this plant are *C. Agrippinum* and *C. tessellatum*. Greek Archipelago, whence it was introduced in 1874.

C. Bivona.—A fairly vigorous species, with rose-coloured slightly tessellated flowers and linear leaves. South Europe.

C. anabile.—A handsome and rare plant, very close to *C. variegatum*, with rose-coloured flowers faintly or not at all tessellated. Greece.

C. Sibthorpii.—This species, the worthy subject of the accompanying plate, is undoubtedly the finest of all the Colchicums in cultivation. It is an inhabitant of the mountains of Greece and Macedonia, ascending to a height of 5,000 feet above sea level. Like *C. variegatum* and *C. Parkinsoni*, its flowers are distinctly tessellated, but the segments of the perianth are much broader, and the leaves are not at all undulated. It is

of comparatively recent introduction, and is still rare in gardens.

Other species belonging to this group are *C. pulchrum*, Greece; *C. lusitanicum*, Portugal; *C. Levieri*, Italy; and *C. Tenorii*, Italy.

GROUP II.

Flowers large, not tessellated, and produced in autumn, whilst the leaves are not developed till spring.

C. speciosum.—This is one of the most distinct and largest flowered members of the genus, and is a very beautiful plant. In colour the flowers vary, some being rose-purple whilst others have a deep purple shade. It is a native of the countries bordering the Caucasian range on the south, extending thence into Persia.

C. byzantium syn. *C. latifolium byzantium*.—Close to the above, but with broader leaves and smaller paler coloured flowers. It is one of the most vigorous growers, with a good sized corm. 1629. South Europe.

C. cilicium is a form of the foregoing, from which it can scarcely be distinguished.

C. autumnale is the only representative of the genus found wild in Britain, there being two forms, one the ordinary well-known form, with bright purple long-tubed flowers appearing in the autumn, and another with longer and narrower light-coloured segments flowering in spring called *C. vernal*. The leaves are narrow and erect, 6 inches to 1 foot long. Several varieties are cultivated in gardens, namely, *C. a. album*, *C. a. atropurpureum*, double purple and double white. Native of Central and Western Europe. Syn. *C. crociflorum*.

C. Haussknechtii is a rare form from Persia, with flowers at first white, afterwards changing to a deep purple.

C. Decaisnei is an early-flowering form, with pale rose-coloured flowers. Palestine.

Other species belonging to this group are *C. turcicum*, Constantinople; *C. laticum*, Crimea, Asia Minor, &c.; *C. persicum*, Persia; *C. polyanthos*, Transylvania.

GROUP III.

Flowers small, not tessellated, produced in autumn, whilst the leaves are not developed till spring.

C. Troodi.—A native of Cyprus; it was discovered by Kotschy on the mountains of Prodromum and Troodos. He describes the flowers as being purplish lilac, whilst those shown in the *Botanical Magazine* figure are white. It is near *C. neapolitanum*, differing only in its more robust habit, more numerous flowers, and broader leaves, with rounded tips.

C. umbrosum.—A shade-loving species with violet-purple, long-tubed flowers, and narrow fleshy leaves, also known as *C. arenarium* var. *umbrosum*. Crimea.

C. neapolitanum is a small growing plant with rose-coloured flowers. South Europe.

Other species belonging to this group are *C. polyphyllum*, Asia Minor; *C. parnassicum*, Greece; *C. corsicum*, Corsica; *C. alpinum*, Switzerland;

C. arenarium, Hungary; *C. lingulatum*, Greece.

GROUP IV.

Flowers are not tessellated, and developed in winter or spring at the same time as the leaves.

C. montanum.—A pretty dwarf species, suitable for the rockery. It has a wide distribution, and closely allied to it are many forms which have been given specific rank by various authors. The flowers are purple or nearly white, appearing in February or March; syn. *C. bulbocodioides* and *C. crocifolium*. South Europe, Orient, and Caucasus.

C. luteum is the only bright yellow flowered species known. It is a native of the mountains in the extreme west of India, being found at an elevation of 7,000 feet. Other species are *C. Steveni*, Orient, and *C. Szovitsii*, Armenia.

W. IRVING.

"THE GARDEN" ALMANAC.

WE venture to hope that the almanac—presented as a supplement with this issue of THE GARDEN—of many of the most important events of 1902 in the horticultural world will be found useful and interesting to our readers. Our best thanks are due to the secretaries of the various institutions and societies who have so promptly supplied us with the information necessary to its compilation.



A GROUP OF KALMIA LATIFOLIA.

KALMIA LATIFOLIA.

Few flowering shrubs can surpass this *Kalmia* for beauty when at the zenith of its loveliness. Each delicately fashioned, cupped blossom, of which Ruskin wrote so appreciatively, is a marvel of perfect form, and the large clusters, ranging in colour from white to soft pink, almost hide the shining, lance-shaped leafage in their profusion. Bushes from 6 feet to 8 feet in height, standing in a fairly open position, form a charming picture in the month of June, and retain their beauty for a comparatively lengthened period. While partial to a peaty soil, such as that in which *Rhododendrons* and *Azaleas* flourish best, the *Kalmia* is often to be found growing in healthy vigour in leaf-mould and loam, provided that the latter does not contain lime. This latter constituent is fatal to the well-being of the *Kalmia*, and the attempt to cultivate it in a limestone soil is foredoomed to failure. Apart from the beauty of its flowers, *Kalmia latifolia* is valuable as an evergreen shrub, its foliage being distinct and handsome.

There is a variety of *K. latifolia* named *K. myrtifolia*, bearing small Myrtle like leaves. *K. latifolia* is sometimes grown in pots and forced into early bloom, when it forms an attractive object in the conservatory. There are several other species of *Kalmia*, or Mountain Laurel as they are termed in their North American home, but these are far dwarfer than *K. latifolia*, and cannot compare with it for decorative effect. *Kalmias* may be propagated by cuttings of the young shoots placed under a bell-glass in the spring or by seed.

S. W. FITZHERBERT.

KEW NOTES.

HABENARIA CARNEA.

IN March, 1895, a coloured plate was given in THE GARDEN of *Habenaria carnea* and its white variety. This beautiful East Indian Orchid is now flowering in the Cypripedium house. The spikes of delicate shell-pink flowers, with long spurs of a deeper shade of red, rising from silver green leaves mottled with white, do not recall our native Butterfly Orchis (*H. bifolia*), and still less the dingy colouring of the less frequent Frog Orchis (*H. viridis*), but it belongs nevertheless to the same genus. It is conspicuous rather for quality than quantity, though larger in every way than its British relatives, the individual flowers resembling in size and form those of a *Calanthe*, but there is an exquisite daintiness about the leaf and blossom that leads one to pass by more showy species in its favour. Coming from Penang, it must be grown in the temperature which suits other East Indian Orchids, and as it is a tuberous rooted deciduous species requires special care during the resting period, when it is apt to be overlooked. The tubers must on no account be allowed to shrivel during this time, though water must be given with great judgment. As with many other tubers, it has been found advisable to repot as soon as the growth begins to die down, so that root disturbance later on may be avoided, a practice likely to come into more general use for many plants when its advantages have once been tested by experience.

LUCULIA GRATISSIMA.

One of the most notable shrubs at present in flower in the greenhouse (No. 4) is *Luculia gratissima*. It is a peculiarity of this fine plant that it is very shy of flowering under too much root restriction, and is seldom satisfactory unless planted out in a greenhouse border as it is at Kew. By no means new, it is yet one of those good plants which can never pass unnoticed, both for its large heads of pink flowers and the delicious aromatic scent which belongs to them. A delightful shrub at this season for a glass corridor, where a pit 3 feet square and lined with flags or slate can be provided for its accommodation. In its native haunts in the temperate Himalayas it grows into a small tree, and is scarcely ever out of flower, but for English gardens its value is largely increased by its blooming under glass during November and December, when flowers are scarce. A buoyant atmosphere of 50° to 60° is essential to its well doing at this season.

ERICA MEDITERRANEA HYBRIDA.

A large oblong bed, immediately opposite to the Economic house, is filled with this invaluable hardy Heath, which is just coming into flower and showing colour. It is some years since this seedling variety—*Erica mediterranea* × *E. carnea*—was sent out by Messrs. Smith and Sons, Darley Dale, Derbyshire, from whom so many of our best garden Heaths have come, and many who know the alpine species well are even now unacquainted with this still more desirable seedling. *E. hybrida* may be described as a strong growing *E. carnea*, which generally comes into bloom at the beginning of December, several weeks in advance of its parent. Rather later this year, it is only now putting on its rosy flush, but will last in beauty for months, through all the worst of winter weather. To-day every tiny bell was encrusted with rime, but cold and frost, snow and wind matter not. It holds on its way without flinching whatever happens. *E. carnea*, if it lags behind now, will last longer into spring. Both kinds are welcome, as well as the rather more delicate growing white varieties of both.

THE INDOOR GARDEN.

IN THE STOVE.

WITH the advent of the New Year every endeavour should be made to forward, as far as possible, all cleaning, potting, and propagating of all plants in this department. Light being very important in the successful cultivation of plants in winter the interior of the house should be thoroughly scrubbed and the glass washed outside.

CROTONS.

Take off the tops of strong leading shoots of plants not wanted for potting on, insert singly in 3-inch pots, using a compost of three parts loam and one part consisting of leaf soil, sand, and charcoal. Plunge the pots in fibre in the propagating case, never allowing the temperature inside the case to go lower than 75° by night and 80° by day. It is advisable to tie up the leaves of the longer leaved varieties loosely. Ringing is another method of propagation, and in establishments where room is limited and no propagating case available with the necessary bottom heat, it is preferable to the bell-glasses, under which they are sometimes rooted. The bark should be removed from around the stem to the width of a quarter of an inch at a point where the leaves are intact. In about three weeks' time from the date of removal a slight swelling will be noticed on the upper



THE NEW WINTER PEAR GENERAL WAUCHOPE (SLIGHTLY REDUCED).

edge of the wound: then place a mixture of cocoanut fibre, leaf soil, and sand, encasing the lot in moss. Roots will be found to appear in about a fortnight. When strong enough take away the covering of moss, potting up the plants into 3-inch pots, and keeping close for a few days.

ALLAMANDAS, BOUGAINVILLEAS, AND CLERODENDRONS

required for early flowering should now be pruned, withholding water until signs of growth appear. *Ixoras* to flower in June may be cut back slightly, but do not allow the plants to get dry. The temperature for the present month should be 65° by night and 70° by day, except in windy and severe weather, when a drop of 5° is advisable.

Plants required for decoration should never be taken direct to the house, but should be prepared for the change by a gradual transfer to lower temperatures.

PERSIAN CYCLAMENS

in flower should be kept well supplied with water, and occasionally with liquid manure. Flowers, when taken from the corm, want to be given a smart pull—if they are cut the stems bleed and exhaust the plant.

As the autumn sowings become ready transfer the seedlings into 3-inch pots, keeping the crown of the corm free from soil. When a succession of flower is wanted a sowing should be made now. Dibble the seeds 1 inch apart and a quarter of an inch deep in seed-pans, firmly filled with loam, with a liberal addition of leaf soil and sand. Cover the surface with finely-sifted cocoanut fibre.

BULBS IN STORE.

such as *Begonias*, *Gladioli*, *Gloxinias*, and *Dahlias* should be examined once a fortnight. *Caladiums* should be given water occasionally or the bulbs are apt to suffer from the dry rot.

JOHN FLEMING.

Wicham Park Gardens, Slough.

PEAR GENERAL WAUCHOPE.

THERE are few good winter Pears, and therefore we are greatly interested in this new variety, raised by Mr. Charles Ross, gardener

to Captain Carstairs, Welford Park, Newbury. As our illustration shows this new Pear may be classed among those of medium size, and is the outcome of crossing *Ne Plus Meuris* and *Duchesse d'Angoulême*. It reminds one of *Glou Morceau* in shape, and is a Pear of pleasant flavour. Those we tasted were without grit, sweet, but not too much so, and melting.

THE FLOWER GARDEN.

PINK LORD LYON AND PINKS IN GENERAL.

IT is pleasant when we are suffering from a surfeit of the *Chrysanthemum* in late autumn to find the Pink a subject of notice. It is a seasonable enquiry, because the autumn is the time when Pinks are planted out to flower the following summer, and there is no more sweetly fragrant subject grown in the open.

I have been on the track of Pink Lord Lyon—not Lord Lyons—for some time past, but without success. I put an enquiry for it in one of your contemporaries, and got plants sent to me from two or three sources, which the senders supposed to be the variety I wanted, but I have grave doubts as to their identity. The Pink Lord Lyon, named after Mr. Sutton's Derby horse, and not after the famous Admiral Lord Lyons, was raised in the early sixties by the late James Clarke, of Bury St. Edmunds, and on the occasion of the Royal Horticultural Society holding its first provincial exhibition in that town I called upon Mr. Clarke, who was a most painstaking florist, when he informed me that Lord Lyon was raised from one of his seedling Pinks named Garibaldi. A variety named Claude was the seed parent of Garibaldi, and Claude was the offspring of Anne Boleyn. The pollen parent was a laced Pink. Here, then, was a line of authenticated pedigree. There was one plant of Lord Lyon in Mr. Clarke's garden which had 110 buds upon it! Lord Lyon in course of time came to be known as

weakly in constitution, perhaps the result of over propagation. It was an excellent forcing Pink, and I should think there is stock of it somewhere about the country if only it could be traced, for it would be a pity if such a fine variety were wholly lost.

It is gratifying to know that there are several raisers of Pinks about the country who are adding to our lists new and useful sorts. Mr. B. Ladhams, Shirley, Southampton, has raised and is still raising some of his newer productions, which he terms perpetual-flowering Pinks, and which appear to be of very strong growth; they were recently shown at one of the meetings of the Royal Horticultural Society. Mr. James Douglas, of Great Bookham, is also a raiser of Pinks, but he appears to favour the laced varieties, and good culture is needed to bring out a perfect lacing. One of the latest of raisers is Mr. H. Young, of Cheshunt, who has secured a few fine border varieties, though they seem to run on pale ground flowers.

The named laced Pinks are fairly numerous, and they are divided into two groups, according to the colour of the lacing on the petal edges whether red or purple. Some of the finest of the red laced flowers are Bertha, Bertram, Boiard, Captivation, Duke of York, Laura, Minerva, Princess Louise, and Zoe. The leading purple laced flowers are Bessie, Captain Kennedy, Device, George White, Harry Hooper, Jeanette, Modesty, The Rector, and John Ball. John Ball, Modesty, and Mrs. Dark are good varieties for the border, as they are of dwarf and compact growth, and have stiff erect stems. R. DEAN.

THE SPIDERY CHRYSANTHEMUMS.

THE December show of the National Chrysanthemum Society has justified its existence if for no other reason than that of having given prominence to the spidery Chrysanthemums. Varieties coming within the description of "spidery" comprise the thread-petalled sorts, with their pleasing silken thread-like florets of varying lengths and interesting colourings, the plumed sorts, and others of quaint and curious forms, with notched and horned florets, also others of Endive-like characters. The plants bloom, too, when the majority of the giant Japanese blooms have long passed their best. Unfortunately, the growth of the majority of catalogued sorts is not good, but in most gardens plants of a decorative character rarely receive sufficient attention, and this is true of the spidery sorts. In my own case plants have been grown in quite a free way, and only in one or two instances have even been slightly disbudged.

The class provided for at the National Chrysanthemum Society Aquarium show was for "six bunches of decorative, spidery, thread-petalled or plumed Chrysanthemums in not less than three varieties." I think this is the third, or it may be only the second, occasion in which a competition of the kind has been attempted, and the display made on the last occasion was distinctly good. The bunches were of good proportions, and the varieties embraced a pleasing variation of forms. It has been said that the flowers do not stand well in an exhibition of three days. What could reasonably be expected of decorative flowers exposed to the heat of such a building for three days? On the occasion referred to the flowers of Mrs. William Filkins were the most frequent; it has bright yellow blossoms, with prettily horned and forked florets. King of Plumes is probably the largest of the type, this having Endive-like rich yellow florets. A white form of Mrs. Filkins, and sent out two years since as Cannell's Favourite, is an acquisition. Cheveux d'Or is also an effective flower with narrow florets of good length, the colour being a rich golden-yellow, the plant in this instance attaining a height of about 4 feet. Jitsujetui, a pink and white thread-petalled variety, and White Jitsujetui, a pure white sort with very fine thread-petals, which should have been described as White Thread, were in the leading stand. The last-named is said to be a seedling from Jitsujetui, which probably accounts for the name attached to the exhibit. Golden Faden, which is really a large-flowered single of

spidery form with long narrow tubular florets opening out flat at the ends, is unique. The colour is a shade of bright fawn, tipped reddish chestnut.

A distinct flower is Golden Thread, rather larger than the majority, and of a deep golden-yellow colour. Other good sorts are Silk Twist, tinted mauve on a cream ground; Miss Harvey, in the way of White Mrs. Filkins when finished and much plumed; and Mrs. James Carter, a variety which is also known under the name of Thistlehead. This sort should be grown very freely, in which case long sprays of elegant and refined thread-petalled pale yellow flowers which deepen in colour towards the centre of each bloom can be obtained. This variety is one of the strongest growing of the spidery sorts. A rival to the last-named has come into notice under the name of Little Jewel. It is dwarf, and the colour, although somewhat similar to that of Thistlehead, is better. A deep pink spidery sort should be welcomed, and this we have in Samuel Caswell. In form it is a good companion to Mrs. Filkins, and is distinctly pleasing. Centaurea is a deep rich yellow thread-petalled sort, the petals twisting and curling prettily. Golden Shower was distributed two years ago, but, strange to say, is little seen. It is the most curious of the whole of these flowers, having very long drooping florets resembling silken threads. The colour is deep golden-yellow, shading off to chestnut-red at the ends. The list may conclude with Houppé Fleuri, a curious mixture of red and yellow, with thread petals; Heroine, a charming old rose-coloured flower, shaded gold in the centre and of curious formation; and Crimson Tangle, a semi-double flower, with a crimson zone and ends of petals a golden-yellow. The two last sorts are quite new.

Highgate.

D. B. CRANE.

APPLE THE HOUBLON.

THIS fruit was raised by Mr. Charles Ross, and received an award of merit from the fruit committee of the Royal Horticultural Society. It resulted from a cross made between Cox's Orange Pippin and Peasgood's Nonsuch, reminding one of the former parent, especially round the eye. It is brisk and good in flavour, and a good winter Apple in every way.

GARDENING OF THE WEEK.

KITCHEN GARDEN.

WITH the beginning of the New Year the work in this department will have to be proceeded with in earnest if the best results are to be obtained. A rough plan of the kitchen garden should be made. This can easily be done during the long winter evenings, marking down where each of the principal crops are to be grown, when each plot may be separately treated to suit their various requirements.

PREPARATION OF THE GROUND

is of the utmost importance, and more depends on this than many people imagine. As most of my readers are aware, I am a strong advocate of deep trenching, and each year I am more fully convinced as to its value; consequently I strongly advise a thorough system of 3 feet trenching, and what are termed old and worn out gardens can be immensely improved and quite new life imparted into the land by bringing up the bottom to the surface and working in suitable ingredients. I much prefer trenching all heavy ground in the New Year, but that of a lighter texture may be worked any time during winter but the earlier the better.

ROTATION OF CROPS.

Except in a very few instances it is necessary to change the site each year, and on no account should any of the Brassica family be allowed to occupy the same ground two years in succession. Jerusalem Artichokes and Horse-radish will do quite well on the same spot for a number of years, providing the ground is trenched in the first instance annually and work in plenty of farm-yard manure. Horse-radish should be allowed to grow for two years on the same spot and treated likewise. If half the bed is taken up annually, selecting all the best roots for use, which may be laid in ashes in some convenient spot for a year's supply, it will save a lot of time, besides damage to the growing crops, and the earlier in the year this is practised the better. Every inducement should be given to promote a quick growth, the difference between that which has been well



THE NEW WINTER APPLE THE HOUBLON (SLIGHTLY REDUCED).

cultivated and that treated in a haphazard fashion being most apparent. Onions are another exception as to change of ground. I have found no ill effects from keeping them to the same plot year after year; indeed, for some reason they seem to appreciate it.

SEED ORDERS.

No time should be lost in making out the list for a twelve months supply. This cannot be done in haste, and is another little task which can be accomplished by one's own fireside in the evening, and should prove an interesting and pleasant pastime. Avoid collections offered by many of the seedmen. I do not for one moment suggest that there is anything but good money's-worth, but surely every gardener should be competent and know best the requirements of the establishment he is responsible for supplying. Do not pin too much faith on these at the expense of old and well-tried kinds: nevertheless, it is well to try a few of the most likely on a small scale. The improved strains of many of our vegetables warrant one in selecting these, the slight cost above the ordinary stocks not being worth consideration. Always bear in mind that it is just as much trouble to cultivate a bad variety as a good one.

PREPARING FOR SEVERE WEATHER.

It is an old saying, and often a true one, "that as the days lengthen the cold strengthens," and it is always well to prepare for this. Winter Broccoli: Varieties which are expected to give heads at this season should be examined frequently, and any showing ought to be well protected, as small heads of these are much appreciated at this season.

Straw or long litter should be placed round Globe Artichokes whenever sharp weather is expected, but this must be removed during mild open intervals. Celery likewise. Common Bracken should be used where plentiful in preference to anything else, but it should not be allowed to remain except when quite necessary. Late sowings of Turnips have done remarkably well, but all the most forward bulbs should be pulled and stored. Sufficient Parsnips and Jerusalem Artichokes should be lifted for immediate use only, as the quality of these is much better when cooked direct from the ground.

E. BECKETT.

Aldenham House Gardens, Elstree, Herts.

FRUIT GARDEN.

EARLY MELONS.

SEEDS for an early crop should be sown without further delay. A simple method of treatment, which answers well, is to carefully drain sufficient 2½-inch pots, fill them with fine moist loam lightly mixed with leaf soil and embed a seed in each. The pots should be placed in a pit or house, having a night temperature of about 70°, be plunged in a warm bed covered with a sheet of glass, and not watered until the plants appear. They should then be replunged in a shallow tray filled with Moss or other similar material, and put upon a shelf near the glass. By careful attention to watering, daily syringing, &c. the plants will make sturdy progress. Provision for planting is best made in a light structure containing a bed of properly prepared fermenting material or hot-water pipes, upon which a thoroughly firm ridge of compost formed of sound loam, lightly mixed with soot and leaf soil, should be placed. Once the plants have well filled their soil with roots and the ridge of compost is warmed through they may be planted at about 2½ feet apart, and subsequently treated upon the single cordon principle.

LATE VINERIES.

The keeping of Grapes hanging a lengthened time after they are ripe upon Vines has, without doubt, a weakening effect upon the latter, and for this and other obvious reasons the latest varieties, such as Lady Downe's Seedling, Alicante, &c., should now be relieved of their bunches, with a suitable portion, for bottling purposes, of their wood attached, and carefully stored in the usual way in the Grape room. The houses should be then thrown open to afford the Vines perfect rest, and the inside borders, which, having been kept tolerably dry for the sake of the better keeping of

the Grapes, should be well watered. There should be no delay in pruning the Vines, and in doing so each lateral should be cleanly cut back to two prominent buds. This should be followed by cleaning the woodwork, &c., of the houses and carefully freeing the rods and spurs of loose bark, at the same time avoiding the erroneous system sometimes followed of severely scraping them. Subsequently the Vines should be thoroughly washed to destroy red spider with a tolerably strong solution of Gishurst compound, used in a hot condition, and applied by perfectly saturating the rods, &c. with the aid of a suitable brush. The top 2 inches or so of the borders, according to the condition of the roots, should be removed and replaced with fresh compost.

PINE-APPLES.

To supply ripe fruit in June a house of Queen Pines should now be started by raising the night temperature from 65° to 70°, with an increase of 5° by fire heat during the day and that of the plunging material to about 85°. The plants should not be replunged unless for some absolutely necessary cause, as this cannot be done now without considerable injury. Other present wants will be met by keeping the soil moist by periodical applications of tepid and weak liquid manure derived from Peruvian guano or some similar fertiliser, moderately increasing the atmospheric moisture and slightly ventilating the structure when its temperature by sun heat reaches 80°, but it may be added that moisture in any form must be very discreetly given at this early season. In order to avoid the necessity of much firing, the glass should be suitably covered at night in severe weather.

THOS. COOMER.

The Hendre Gardens, Monmouth.

ORCHIDS.

ONCIDIUM VARICOSUM ROGERSH and *O. tigrinum* are two handsome and showy Orchids for late autumn and winter, and both are useful for exhibition. The plants of *O. varicosum*, though small, produce large branching spikes of bloom. As these are a great strain upon them they should be removed as soon as possible after the flowers have expanded. *O. tigrinum* does not suffer so much in consequence and may be allowed to carry the flowers for a longer period. When the spikes are taken from the plants much less water is needed until growth commences. *O. tigrinum* requires little to keep the bulbs plump. *O. varicosum* thrives in the cool part of the Cattleya house or in a shaded position in the Mexican house. It needs less heat and may be grown with the *Odontoglossums* for a greater part of the year, but is benefited by more heat in late autumn and winter, the Cattleya or Mexican house then being suitable.

Oncidium sphacelatum is a strong-growing, free-flowering species, that produces long branching panicles of flowers in spring. This is now developing its new growth, and the spikes are seen pushing up from the base of the bulbs. Though the plants must not be kept too wet at this season a moderate supply of water is needed to properly develop the bulbs and flower spikes. The plants thrive well in the Cattleya house, and should only be repotted at long intervals, for they love to creep over the sides of their receptacle and send forth roots in the air in abundance. *O. sarcodes*, *O. phymatophilum*, *O. bifolium*, *O. sessile*, *O. divaricatum*, *O. pulchellum*, *O. Carthagenense*, and *O. cavendishianum* also thrive well in the Cattleya house.

Many species also grow well in the cool intermediate house, such as *O. Forbesii*, *O. excavatum*, *O. crispum*, *O. longipes*, *O. pubes*, *O. wentworthianum*, and *O. Linninghei*; the latter is best grown on a block of wood.

The cool house is suitable for such species as *O. concolor*, *O. dasystyle*, *O. incurvum*, *O. serratum*, *O. laxense*, and *O. macranthum*. As the long trailing spikes of the latter species are well advanced they need support. Three or four stakes should be placed in the pot, and their spikes trained around them, or the flowers may be seen to

better advantage along the roof some distance from the glass.

GALEANDRAS.

This group, though neither numerous nor showy, is very interesting and distinct, having slender, erect, fleshy-jointed stems, from the tops of which the flower spikes are produced just after growth has finished. Galeandras require a stove temperature, a moist atmosphere, and a plentiful supply of water should be given when growing, but when resting less heat is needed, a light position in the Cattleya house then being suitable, and sufficient water only given to prevent the stems from shrivelling. They are best cultivated in pots, in a compost consisting of equal proportions of peat and sphagnum moss. Being subject to the attack of red spider and thrip they should be syringed on bright days and frequently sponged with some insecticide.

Galeandra devoniana is the one most worthy of cultivation: the flowers are white, pencilled with pink, 3 inches to 4 inches across, and produced in pendant spikes. This species makes its growth in autumn and winter, and should then be in the hottest part of the stove. When growth has finished place it in the warm part of the Cattleya house until growth again commences.

ODONTOGLOSSUMS.

Many of these are now pushing up their flower spikes where slugs are troublesome. Cotton wool should be placed loosely and neatly round the base of the spike. Valuable specimens should be stood on inverted pots in pans of water, and see that no part of the plant touches anything by which slugs can gain access to the spikes.

Calogyne cristata and its varieties are also sending up their spikes. These should now have a light position in the Cattleya house, and, though more water is needed, this must by no means be carried to excess, as too much moisture at the root or in the atmosphere will cause the spikes to turn black and decay.

F. W. THURGOOD.

Rosslyn Gardens, Stamford Hill, N.

THE FLOWER GARDEN.

Owing to the open and comparatively dry weather experienced during the last two or three months work in this department has necessarily been much advanced. Borders and beds of herbaceous perennials will in most instances have long ago been rearranged to improve upon last year's designs and colour effects, and in most cases the ground for annuals and summer bedding plants will have been already matted and dug. Where there are beds and borders of the latter description in a conspicuous position their embellishment, by what is known as winter gardening, is almost essential, and for this purpose there is nothing better than shrubs of a dwarf showy character growing in pots, such as *Retinospora*, *Euonymus*, *Hollies*, *Aucuba*, *Box*, &c. When the time arrives for putting out the summer bedding plants these can easily be removed. If there are any replanting or

NEW DESIGNS

still contemplated, and not done last September, it is now better to leave this until the spring, but any improvements in repairing edges, relaying turf, and making good gravel walks can be done whenever the weather permits. During bad weather, when it is impossible to be doing anything out of doors, the opportunity should be taken to look over the whole stock of bedding plants, keeping them clean, free from decaying leaves, and the surface of the soil from lichen. Care should be taken that hardy and half-hardy

PLANTS IN FRAMES

have abundance of air when the weather permits to prevent dampness, and a watch should be maintained for slugs and other vermin. Now is a good time to prepare for propagating by cuttings and seed sowing. A large quantity of light soil, with plenty of leaf-mould, ought to be sifted and placed under cover to keep it dry, and the boxes, pans, and pots prepared ready for use. If hot beds are to be used a quantity of fermenting material, such

as leaves and long stable litter, must be got together and well mixed, but where there is a well heated pit or propagating house this is unnecessary. The

PROPAGATION

by cuttings of *Heliotrope*, *Tropæolum*, *Verbena*, *Ageratum*, and such like things can be commenced as soon as the house is ready. The lovely strain of East Lothian Intermediate Stock, which emanates from Scotland, and is so ornamental, either as a summer or autumn plant in formal beds or in the natural borders and so useful to cut from for vase decoration, should be sown now. It is often sown in March, when it comes into flower in the months of August and September, but by sowing it now it commences to flower towards the end of May and early June and blooms on to September. Here a large quantity is grown, more especially of the rose-coloured variety, which I find the most profuse and showy. The purple one is inclined to be a shy bloomer. Seed is sown lightly in boxes in the middle of December in gentle heat. When large enough the seedlings are pricked out into fresh boxes, and when they become crowded are potted up into large 4-inch pots, in which, when they become established, they are removed to cool frames. By April they are strong, hardy, well-rooted plants, fit at any time for bedding out without fear of check.

St. Fagan's, Cardiff.

HUGH A. PETTIGREW.

BEGONIA IDEALA.

THIS is an acquisition to the winter-flowering section of the *Begonia*. In these days, when there is an ever-increasing supply of novelties among flowering plants, this is saying much, yet not one word more than is deserving to this latest addition which Messrs. Veitch have given to the flower-loving public. It is raised from the well known *B. socotrana* and a variety of the tuberous-rooted section, to which latter the present novelty has a great tendency. Nothing so far as we could momentarily determine is traceable of the large fleshy orbicular leafage of *B. socotrana* or even of the flowers. In truth, all the influence apparent on the surface and to the casual observer is in the winter flowering; and here, indeed, centres all the merit of the new comer. When the latest tuberous-rooted varieties are over then is *B. Ideala* expanding its brilliant rose-carmine flowers. The flowers are large and semi-double. Like that small-flowered kind Mrs. John Heal, that was one of the earliest of a similar cross, the flowers of the present novelty never fall away but perish on the plant. The plants are about 6 inches high, and very freely flowered. Messrs. Veitch and Sons, Limited, Royal Exotic Nurseries, Chelsea, were the exhibitors of it on November 26, and given an award of merit.

CORRESPONDENCE.

(The Editors are not responsible for the opinions expressed by their correspondents.)

HARDINESS OF CERTAIN SHRUBS.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—IN THE GARDEN of December 14 I saw some notes by "Nemo" on the above subject, in which he mentions a *Camellia* withstanding a temperature of 17° but succumbing to one of 3° Fahrenheit, but he does not say whether this was the temperature registered in the orthodox "screen" or on the ground exposed to the sky. Temperatures are absolutely valueless for comparison unless this is stated, as one of 17° in the screen may frequently mean one of zero if exposed to a cloudless sky. Many persons seem surprised to learn that in Dorset, within a mile or so from the sea, we had a temperature of a fraction below zero on one occasion last January, though, if my memory is correct, the screen temperature did not fall below

15° or thereabout on the night in question.

It is this ambiguity in recording meteorological observations that makes the experience of different gardeners appear so contradictory. The night in question had hardly any effect on vegetation, the *Camellias* in the open not showing damage to a single leaf, though the *Benthamia fragifera* was slightly cut. With regard to the latter shrub my experience is very different from that of "Nemo," as during the past thirty years I have had it several times destroyed to the ground by hard winters, when the *Lanrustinus* was scarcely hurt. Of course there is no definite minimum of temperature which any particular plant can endure, as much depends upon (1) the soil, (2) the amount of humidity both in the soil and in the atmosphere, (3) whether the plant is exposed to the early rays of the sun while yet frozen, (4) whether it is exposed to draughts, and to a minor extent on other conditions under which it is grown. Then the duration of a frost is a most serious item in damage to vegetation, even in the case of shrubs, but still more in that of bulbs and other dormant roots of herbaceous plants. In one long continued frost—I think it was in 1880—I lost large numbers of *Gladioli* and other bulbs which had never been affected by frost before, but in this case the frost continued so long that it had reached 30 inches under ground before it finally broke up.

About the same time I remember seeing many Bay trees in Bourne-mouth killed nearly or quite to the ground, but of this *Laurus nobilis* there are many varieties from the stiff and leathery-foliaged type which is most commonly met with to the rank-growing and more sappy-foliaged type represented by the *L. n. var. undulatus*, and these different types are variously affected by temperature. Even *Cupressus macrocarpa*, which "Nemo" mentions, I have seen damaged by frost, though not in my own garden, and *C. sempervirens* has several times been seriously cut, generally by snow freezing among the foliage. There are two trees more or less allied to the Bay, but more delicate, which here at least I should rank as about of the same hardiness as *Benthamia fragifera*, namely, the *Camphor tree*, *Laurus Camphora*, and the *Oreodaphne*, or as it is sometimes called *Laurus regalis*. They are both pungent and rather pleasant in perfume, but the latter is somewhat dangerous, as if smelt continuously for a minute or two it causes very severe pain at the base of the skull, and is said even to cause insensibility, after the manner of chloroform.

"Nemo" further mentions *Cacti* as having withstood 25° of frost, but he does not tell us to what species he alludes. Some, like *Opuntia Rafinesquii*, are extremely hardy; in fact, I have never lost a plant of that species from frost for thirty years, but most of the *Cacti* will not even stand an ordinary winter in the open. If the *Aloe* to which he also refers is the common American *Agave*, I have seen it almost invariably killed in this country in an ordinary winter, if standing in



THE NEW BEGONIA IDEALA.

the open and upright, but if turned on its side or nearly upside down, as it may be when planted in the side of a perpendicular cliff, it is usually unhurt by frost or snow, as snow and rain cannot gather between the leaves and freeze there, as is the case in its natural position.

Parkstone, Dorset.

H. R. DUGMORE.

HYDRANGEAS IN THE GARDEN.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—THE beautiful illustration on page 413 (vol. lx.), showing how *Hydrangeas* grow in South Africa, reminds me that an effect somewhat similar might be obtained at home by growing these showy plants in large quantities. I am induced to think so by the way in which solitary specimens grow and flower year after year in certain gardens with little attention. Last summer I observed a large plant of *Hydrangea Hortensia* growing in a border underneath a cottage window and covered with large trusses of bloom. The owner was not sure how long it had been there, but for many years. The only attention given is to cut away the dead shoots and scatter a little manure round the roots in the winter. If one plant will do so much one can easily imagine the effect of an entire border of them.

H.

NOTES FROM CALIFORNIA.

LIPPIA REPENS.—A CARPETING PLANT.

SOMETHING that will carpet the ground quickly, that will make a thick matting very pleasant to walk over and roll upon, that will keep green winter and summer, and that will need very little watering to keep in good shape: this is *Lippia repens*. Is it a grass? No, it is a trailing perennial, which does not die in patches, like some of the *Mesembryanthemums* do, but grows thicker and thicker as it becomes older. Will it become a pest, like the Bermuda grass? No, because it has

no underground runners, but runs only on the surface of the ground; the rootlets that start from every joint go down perpendicularly, but have no reproductive buds themselves; consequently, a spade inserted a few inches under the surface of the ground will take up the whole mass if needed. Will Lippia need mowing? Yes, and no; that is, it can very well do without mowing, as it will never grow over 6 inches high; but, if it is not much walked over, and if you want a very even surface, mowing and rolling will improve its looks. Will it grow in the shade and under trees and shrubs? Yes; but not quite as compact and dense as it will do in the sun. Will it stand frost? 10° Fahr. will not hurt it. This is sufficient about Lippia repens, though if you want to know how it has behaved on this coast, it can be stated that at Coronado Beach it has proved a great success for golf links and other purposes. On the opposite side of the continent, at Riverton, New Jersey, where the Henry A. Dreer Nurseries are located, Lippia has proved to be the very best plant to stand the heavy tread of the Sunday crowds attracted there by the dazzling beauty of the water lilies.

A CAPITAL PLANT FOR HEDGES.

Visitors at Santa Barbara are always admiring the silvery grey, neat-looking hedges, which are to be seen in various part of town. They are made with a native plant, *Atriplex Breweri*, which grows on our coast, from Point Conception southwards, and is now popularly known as the "Santa Barbara Salt Bush." Hedges can be made with it from 1 foot to 6 feet high, and even more, if properly trained, and their neutral colour forms the very best background for flowering plants of any description. From the location where it naturally grows it is easily understood that this "Salt Bush" is hardy, and tough as tough can be. Moreover, it presents the advantages that it can be grown without any water, at least right on the coast where fogs are frequent during summer, that it is not affected by parasites of any kind, and that horses and cattle will not touch it. Like other hedge plants it will need clipping quite often during the growing season. Although growing so quickly, it will never die off and leave unsightly gaps, as is often the case with the Monterey Cypress. In every respect it is well worth recommending for this special purpose, and for all places where a grey effect in masses is needed.—*California Floriculturist*.

NURSERY GARDENS.

AZALEA CULTURE AT MESSRS. SANDER'S BELGIAN NURSERY.

LITTLE more than a stone's throw from the Porte Maréchal, one of the picturesque Flemish gateways yet remaining to the ancient town of Bruges, Messrs. Sanders, of St. Albans, have established a foreign branch of their well-known nurseries. Horticultural gardens abroad present some features which are very distinct from those in England. One cannot but be impressed by the enormous number of Bay trees under cultivation, both in the open ground and in tubs. The latter are cut and trimmed, some into pyramids, some, more popular still, into rounded heads, and these formal trees are in great vogue on the Continent for public buildings, quadrangles, and courtyards, as well as for private gardens, from which we may conclude that the demand creates what appears, at first sight, to be an inexhaustible supply.

In October, when our visit was paid, the special business of the hour was the lifting, housing, and packing of Azaleas of all kinds. Azalea culture on a large scale is scarcely attempted in England, almost all the plants which flower with us having been originally grown in Belgium and imported. It was extremely interesting, therefore, to be permitted to see the process, from first to last, of the system of cultivation there adopted. To begin at the beginning—when the growing plants are

pruned—every available cutting is secured, and these strike readily in the propagating frames. The cuttings are mostly taken from varieties of *A. indica*, which is found to answer well as a stock for grafting upon, though the hardier *A. pontica* is also largely used. Probably the raising of seedlings for the same purpose is not neglected, but cuttings seem to be preferred. When thoroughly rooted and strong enough, the grafting, which is to form the foundation of the future standard, is proceeded with. Grafting is a simple matter to the expert, but it requires some practice to perform the operation deftly and well. The cutting is first of all beheaded, then the top is cleft with a sharp knife, and the scion, with its wedge-shaped end, is neatly inserted, and, lastly, it is gently yet firmly bound in position so that it shall not slip. The plants thus worked are returned to the propagating house until the union is effected, when they are gradually hardened off.

Another plan is to allow the cuttings to grow on their own roots, in which case they are well pinched back and encouraged to break low down into many shoots. These form, in due time, dwarf spreading plants, which are especially suitable for baskets or jardinières. During winter the plants are grown under glass, but the summer culture is entirely in the open air, and the compact little bushes are planted out every season in well-prepared beds, where they take up wonderfully small space and look the picture of health. When late autumn arrives they are lifted, with little disturbance of the close firm balls of roots to which the sandy soil clings, and those which are too small or are not required as yet for export or sale, are placed closely together on shallow benches in cool glass houses and packed in with fresh soil. Here they remain, growing slowly, until the planting season comes round once more. The rest are carried to the sheds, roofed in—in many cases with the wooden blinds so much in use abroad—and are there packed into the ventilated wooden cases in which they are to be despatched to their several destinations. The good results of this open air culture and yearly transplanting are clearly manifest in the uniform compactness and vigorous growth of the entire output of Azaleas, every mature plant being, at this season, set with flower buds on each little branchlet.

It is evident that three years' culture at least goes to the making of each saleable plant. In Messrs. Sander's nursery Azaleas of all ages may be seen, from newly struck and grafted cuttings to veteran specimens in perfect health and promise of flower, with stems as thick as a man's wrist, which were pointed out as being no less than forty years old. There is absolutely no mystery in the growing of Azaleas, nor any reason why they should be kept starving in pots, as they often are in ordinary gardens, when room can be found for summer planting out; but successful cultivation is assuredly a question of constant care and attention. These old Belgian towns certainly possess one advantage denied to most English gardens. They are intersected by canals, which supply plentiful irrigation without difficulty and with little expense, whenever and wherever water may be needed for growing crops. Rhododendrons are grown on very much the same system, and a white variety named Winter Cheer should be noted on account of its very early flowering.

A great number of fruiting Orange trees, chiefly used as room and window plants, and of the New Holland shrubs are to be found in this admirably-appointed nursery. Acacias of many species were coming into bloom, amongst them *A. riceana* and *A. verticillata*; and other large-growing kinds in pots or small tubs of unusually moderate size, and looking very flourishing. *Boronia*, *Chorozema*, *Sollya*, and *Polygala*, with several more of the Australasian genera were worthily represented, and it was good to find that a speciality was made of single and semi-double Camellias. Such interesting and beautiful species as the Chinese *C. reticulata* and the Japanese *C. Sasangua* in its pink and white forms are not always easy to obtain.

A number of houses were devoted to Palms and foliage plants; and last, but not least, Orchids occupied a large proportion of the 120 glass

structures belonging to the establishment, which will amply repay a visit from a plant lover in search of rare and well-grown specimens of many distinct groups. K. L. D.

BOOKS.

The Journal of the Royal Horticultural Society.—The twenty-sixth volume of the Journal, parts 2 and 3, is an excellent production, and everyone interested in horticulture should purchase it, or, better still, become a subscriber to the society in the New Year. A few of the papers we hope to reproduce in THE GARDEN, and we cannot do more now than refer to the contents, which include, besides reports of the fortnightly meetings in the Drill Hall, a complete report, with papers, of the Lily conference held in the Chiswick Gardens last July, and the lectures at Chiswick by the Rev. Professor G. Henslow, M.A., V.M.H. Colonel Wheatley's lecture upon "The Royal Parks" is interesting, and of the utmost importance is the late Rev. H. Ewhank's "Onco-cyclous Irises." The editor of the Journal, the Rev. W. Wilks, makes the following reference to our late never forgotten friend: "The paper was written during Mr. Ewhank's illness, and was corrected for the Press as he lay upon his death-bed, and less than a week before he died. He was a true and ardent lover of flowers and of all plant life, always seeking to know them and their ways better and still better—ever learning even to the end—and always willing to communicate his knowledge, but so humble that he thought he had little to bestow, whereas in reality his mind was wonderfully furnished with unfailing stores of knowledge drawn from the deep wells of personal experience and constant observation. He will be a great, almost irreparable, loss to amateur gardeners here. He surely will be welcomed in those other gardens where neither plants nor those who tend them experience disease or ill." The Lily reports are interesting, as some of the most important papers were unfortunately "taken as read" at the conference, among others the notes of that famous Lily authority, Mr. G. F. Wilson, of Weybridge. Mr. Arthur Paul's notes about "Autumn Roses" are excellent, and to show the wide range of subjects there are reports of the lectures delivered: "Vines and Wine Making at the Paris Exhibition," by Sir James Blyth, Bart.; "Iris Leaf-blotch," by Dr. Cooke, M.A.; "Tender Plants for Outdoors," by Mr. William Townsend; "Garden Manures," by Mr. F. L. Baker, A.R.C.S.; "Queensland Flowers and Fruits"; "Violet Disease," by Dr. Cooke and Dr. W. G. Smith; and "Commonplace Notes," by the editor and superintendent, which comprise such instructive information as "How to Keep Apples," &c. The volume is freely illustrated, well printed, and, we need scarcely add, well edited.

The Favourite Flowers of Japan.

—A dainty, pleasant book, by Mary E. Unger; illustrated and painted by T. Hasegawa, Tokyo. The favourite flowers include the Chrysanthemum, Plum Blossom, Peach Blossom, Cherry Blossom, Camellia, Magnolia, Wistaria, Tree Peony, Iris, Azalea, Lily, Hydrangea, Morning Glory, Lotus, and Maple. The drawings possess much charm, and the whole production is in good taste and useful. The following hints about the way to grow the Japanese Iris are given on page 21: "The most perfect flowers are grown in a swampy clay soil, which should be irrigated during the growing season, that is, from the time the first leaves appear until the plants have finished flowering. A good position would be along the side of a river, a lake, or a pond, so that the roots can find all the moisture that the plants require. The site should also be fully exposed to the sun. In order to obtain the largest flowers the plant should receive a weak manuring once or even twice a week, especially when the buds begin to show. The first flower of each plant is generally the largest, and here they often measure 8 inches to 10 inches across. After the flowering season the irrigation should be stopped, the bulbs allowed to ripen, and

during the winter a little protection should be afforded. In any ordinary garden the Iris will grow and produce good, though smaller flowers, but it should be given plenty of water during the growing season."

The Book of Old-fashioned Flowers.*

In the fourth volume of "Handbooks of Practical Gardening," Mr. Harry Roberts not only gives good practical information concerning the culture of old-fashioned flowers, but gives it in a very readable manner. Mr. Roberts thus explains the title of his book: "By old-fashioned flowering plants are meant those which we may class with the herbaceous, bulbous, and other hardy plants which one always expects to find in the old cottage gardens, old vicarage gardens, and old farmhouse gardens of romance, and occasionally in those of reality." The scope of this volume is therefore a wide one. For "colour schemes" the author professes no regard, for we read: "I have never seen colour schemes which surpass those chance effects of the hedgerow and the meadow, or of those pleasant gardens where the gardener's sole aim is to grow plants healthily and well. Indeed, there is some small risk at the present moment that the individuality of beautiful plants and flowers may be too frequently sacrificed to the production of effects." There may be a danger of this, but surely it is better to arrange one's plants so that the effect of the whole border may be a harmonious blending of colour rather than a succession of unpleasing contrasts. Mr. Roberts is equally severe upon those who have gardens to provide themselves with cut flowers only. He says: "I hold that a flower cut from its plant and placed in a vase is as a scalp on the walls of a wigwag, a trophy showing how one more beautiful plant has been defeated and victimised by its powerful and tasteless owner." There are chapters upon a garden by the sea, cottage gardens, the garden in winter, spring, autumn, and summer, shelter and shade, light in the garden, how to grow Roses, &c., each of which is pleasantly written and full of useful information. Indeed, this may well be said of the book itself.

The Book of Bulbs.†—This, the fifth volume of the "Handbooks of Practical Gardening," is from the pen of Mr. S. Arnott, a frequent contributor to current horticultural literature. If Mr. Arnott has erred in the compilation of "The Book of Bulbs," it is, we think, because he has included descriptions of so many genera, considerably over 100 being enumerated. These are not all hardy bulbs, those suitable for the stove and greenhouse being also included. A comprehensive book, as this may undoubtedly lay claim to be, has, however, its advantages. It brings before one many little known and meritorious plants that the true garden lover will welcome the opportunity of becoming acquainted with. Each genus is described in alphabetical order in a separate paragraph; descriptions are given of the best species, together with brief cultural notes. Mr. Arnott gives valuable information in such a simple and concise manner that the amateur gardener cannot fail to find "The Book of Bulbs" a most useful addition to his garden library. The professional gardener, too, will doubtless find descriptions of bulbous plants he probably has but little if any knowledge of. We could have wished that Mr. Arnott had devoted more space to the genus *Lilium*, the most interesting of all bulbous plants. The Editor, Mr. Harry Roberts, has contributed a chapter upon the botany of bulbs, and there are several illustrations showing the effect of massing.

* "The Book of Old-fashioned Flowers," by Harry Roberts. Published by John Lane, Vigo Street, London, W. Price 2s. 6d.

† "The Book of Bulbs," by S. Arnott. Published by John Lane. Price 2s. 6d.

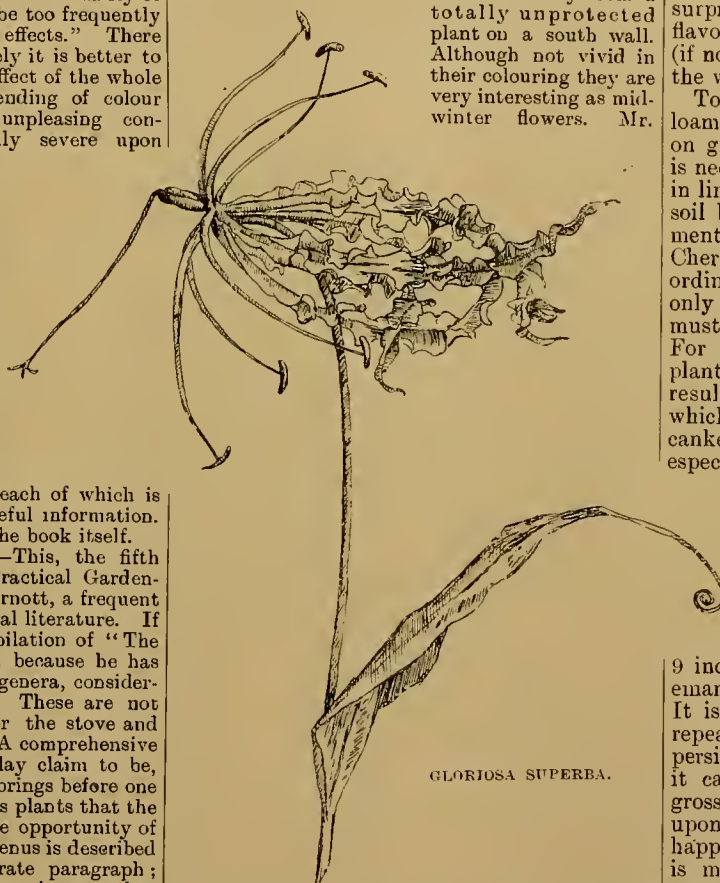
‡ "Profitable Fruit Growing," by John Wright, V.M.H. Published by W. H. and L. Collingridge, 148 and 149, Aldersgate Street, E.C.

Profitable Fruit Growing.‡—We have received the sixth edition of this useful little work, by Mr. John Wright, V.M.H., which is a reprint in book form of the gold medal essay written for the Worshipful Company of Gardeners. That it should have reached a sixth edition is sufficient testimony to its value. In its present form we notice additions have been made to several chapters, as well as a supplement of thirty-two pages. It is addressed especially to cottage gardeners and small holders of land, and the sound information is given in simple language, and its value increased by numerous photographic illustrations and sketches. Intending candidates for the Royal Horticultural Society's examination might consult this book with advantage. His Majesty the King has been pleased to accept a copy of this edition.

EDITORS' TABLE.

CLIANTHUS PUNICEUS IN DEVON.

Mr. S. W. Fitzherbert, Kingswear, South Devon, sends flowers of *Clianthus puniceus* picked on Christmas Day from a totally unprotected plant on a south wall. Although not vivid in their colouring they are very interesting as mid-winter flowers. Mr.



GLORIOSA SUPERBA.

Fitzherbert also sends a small truss of Ivy-leaved Pelargonium Mme. Crousse from the same wall.

GLORIOSA SUPERBA.

Mr. Crook, of the Forde Abbey Gardens, Chard, Somerset, sends flowers of an exceptionally good variety of this bright flowered climber.

THE DESSERT CHERRY ON WALLS.

A FAVOURITE fruit among young and old, rich and poor, is the Cherry. In estimating the merits and popularity of different kinds of fruit, one comes across various and often conflicting opinions; but no one, as far as my experience goes, objects to a good ripe red or golden Cherry. The Cherry has always had a great fascination for the young,

and if you want to give a boy or a girl one of the most enjoyable of life's pleasures turn them under a well-netted Cherry wall or quarter when the fruit is plentiful and ripe.

Outside the professional fraternity few are aware how long a season the sweet Cherry can be enjoyed as dessert when the best system of culture has been adopted. As generally understood, the season of ripe English Cherries lasts from the middle of June until about the middle of July, whereas, if the most suitable and best varieties are selected and planted against walls with different aspects, this sweet and refreshing fruit may be enjoyed from the end of May to well into the month of September.

ASPECT.

The Cherry is the most accommodating of fruits as regards aspect. It is as happy and flourishes as well planted against a north wall where a glimmer of sunshine scarcely reaches it throughout the year as when against a south wall, where it enjoys the full advantage of the warmth of the sun, and what is more surprising perhaps is the fact that size and flavour are equally well developed and secured (if not more so) on the cold and shady side of the wall than on the warm one.

To grow the Cherry to perfection a deep loamy soil, inclining to marliness, and resting on gravel or chalk, or otherwise well drained, is necessary, and should it be naturally deficient in lime some must be added and dug into the soil before the trees are planted. This statement must not be interpreted to mean that Cherries cannot be grown successfully in ordinary good garden soil (for they can), but only as indicating that if the best quality fruit must be had, so must also the soil be suitable. For a few years after the young trees are planted there is a danger of over luxuriance, resulting in coarse, soft, and barren growth, which falls an easy victim to gumming and canker, diseases to which the Cherry tree is especially subject. On the slightest indication

of this trouble the grower must not hesitate to lift the young trees bodily, when the cause of the mischief will be found in some strong roots which will have been formed (duplicates in a sense of the coarse growths), and these must be cut back to the length of about

9 inches, from which useful fibrous roots will emanate in due time, and the tree replanted. It is seldom that this operation has to be repeated, as the Cherry tree is so free and persistent a fruit bearer that the heavy crops it carries and matures effectively neutralise grossness through the severe drain imposed upon the tree's energies. Where a branch happens to be badly gummed or cankered, and is more or less partially paralysed in consequence, the best way is to cut it out to a point near the stem not affected, when a new growth, providing another healthy branch to take its place, will result. The form of

TRAINING

the Cherry tree that I favour is the fan shape, although almost equally as good results are obtained from horizontally-trained trees, and as this form of training is better liked by some than the other, the grower may follow his fancy by adopting the form he likes best.

PRUNING.

The same cause, namely, the heavy fruiting property which the Cherry possesses operates in restricting an overabundance of ordinary growths (as it does the coarser growths before-mentioned), so that not overmuch pruning is ever wanted. This consists in dis-budding in spring, stopping the foreright and

side shoots where not required for laying in to furnish the tree with branches. These shoots should be thinned out, but not severely, just as the fruit commences to colour by cutting a portion of them back to within six or seven leaves of their base. The remainder should be left until the fruit has been gathered, as in my opinion they answer a useful purpose, not only in the shade they afford against the hot sun, but also in helping a better development of size, as well as assisting the tree to retain the ripe fruit in good condition for a much longer time than would be the case were they cut off earlier.

WATERING

plays an important part in the successful culture of all fruit trees, those planted against the sunny sides of walls more especially. It is so with the Cherry. Vigilant attention must be given to this point, and the trees must never be allowed to suffer from dryness at the root. No one operation in connection with the successful growth of this fruit is more necessary than a liberal irrigation of the roots with manure water from the stable yard, not too strong, immediately after the fruit has been gathered, and to make sure that it is effectual two successive waterings are better than one mulching. It is not needful to draw the attention of the experienced grower to the important part this operation plays in the successful culture of hardy fruits, especially when in hot and sunny positions. It is as important to the Cherry as it is to any other, and therefore must not be neglected. The best material is well-rotted stable manure laid on the roots for a distance of 3 feet or 4 feet round the stem of the tree, more or less according to its size and age. A mistake is often made by the inexperienced in permitting this mulch to remain for more than one year; indeed, adding mulch after mulch until a large heap has accumulated. The old mulch should be carefully cleared away pretty well down to the roots before the new is applied, and the best time to apply it is from the end of October to the middle of November. To prevent evaporation of any of the virtues of the manure it should be covered over to the depth of an inch with soil.

INSECTS.

Black fly is the greatest enemy of the Cherry tree when once it has effected a strong lodgment in the branches. The best way to get rid of it is to semi-prune the affected branches, as the points of the shoots are always the most severely attacked and the most difficult to cleanse. Then go over the trees with the garden engine, giving them a good washing with an emulsion of paraffin, soft soap, and tobacco juice, in the proportion of a pint of paraffin to three gallons of water, a pound of soft soap, and half a pint of tobacco juice added, all well mixed together with water as warm as the hand can bear. This should be done in the evening, and the same washed off early in the morning with clean water. The better way is by extra diligence in looking out for its first appearance early in spring, to nip it in the bud by an application of a weak solution of the same mixture whenever perceived.

SELECTION.

The earliest dessert varieties are the following, and they should be planted against a south wall: Bigarreau Jaboulay, Black Heart, sweet and delicious, Guigne de Louvain, Early Rivers, one of the handsomest in appearance and richest in flavour of any of the Cherries, Frogmore Bigarreau, one of the sweetest and best known, and the following well-known

sorts: May Duke, Governor Wood, Belle de Choissy, and Elton Heart. Mid-season varieties should be planted against a wall with a west or east aspect, when they will succeed the early varieties in sure rotation. Royal Duke, reddish black, large in size, and of excellent flavour, is one of the best for exhibition; Waterloo "cart, prolific bearer, delicious flavour, one of the most certain croppers; Black Eagle, one of the sweetest; Amber Heart, golden colour, still the finest and best flavoured, large, sweet, and prolific; Bigarreau Monstreuse, large and handsome, rich flavour, and prolific; Bigarreau Napoleon, a well-known late standard sort, and indispensable.

LATEST VARIETIES.

A few of these should be planted against a wall with northern aspect in order to prolong the season as much as possible. Florence, one of the sweetest and best, of large size, and sure bearer; Black Tartarian, a handsome black Cherry, excellent for exhibition when grown on a wall; Nouvelle Royale, delicious flavour, and melting flesh; Cleveland Bigarreau, handsome appearance, and of excellent flavour; Noire de Guben, grand variety in every respect; St. Margarets, is one of the latest and best, and will fittingly close the Cherry season.

OWEN THOMAS.

ROSE SHOW IN MELBOURNE.

MR. WM. RUMSEY, of Waltham Cross, kindly sends the following report of a Rose show in Melbourne, with this note: "The enclosed cutting is from Australian friends, and I thought it would interest readers of THE GARDEN. There is no date on it, but the show was held last summer, and it appears that Rose shows are commanding attention in that part of the world." The variety Mrs. George Dickson referred to is the parent of Mrs. Rumsey. I presume the latter has not reached Melbourne yet. The report is: "Although it is only two years since a few Rose enthusiasts met in Melbourne and agreed to form an association to be devoted exclusively to the interest of their favourite flower, yet the National Rose Society of Victoria, affiliated with the representative body in England, is now established on a thoroughly sound foundation. Considerable interest, therefore, was centred in the first exhibition of the 'National,' and it is gratifying to record that yesterday's display of Roses in the Athenæum Hall, both as regards number and quality, formed the finest collection ever staged in Victoria. The Lieutenant-Governor, Sir J. Madden, in formally opening the show, congratulated the society on the success attained.

"Though lacking the decorative assistance of foliage plants, the exhibition comprised special features of its own, and the relative merits of the many beautiful varieties were keenly discussed by a large number of critical visitors. The form, colour, and perfume of the Hybrid Perpetuals, the exquisite tints and shades of the more broken Teas, and the seemingly endless variety of the decorative Roses, were features pronounced enough to satisfy the most fastidious rosarian. In arranging the exhibits, a mistake was made in placing the best Roses near the side walls, where, owing to the shadows during the afternoon, the lustre of many of the blooms was missed. Exhibitors were favoured with fine weather during the two days preceding the show, but early in the week the conditions were not so satisfactory, and some of the lighter Tea varieties suffered injury. Notwithstanding this handicap, the society may fairly claim that its first exhibition is ahead of any Rose show held in the past by local horticultural associations.

"Chief interest was centred in the stands competing for the society's champion gold medal for twenty-four distinct varieties in the open class, the winner being Mr. A. Clarke, of Glenara, Bulla (gardener, Mr. E. T. Peers). Mr. Clarke's collection attracted universal admiration for the colouring and form of his blooms, the Tea varieties

predominating. Mr. J. Oliver, curator of Queen's Park, Moonee Ponds, was placed second, only one point behind Mr. Clarke, and his collection may justly be classed as one of the most successful features of the show. Ample evidence of the exquisite colours and the variety of form obtainable in the different types of the Rose was shown in a staging of thirty-six distinct varieties, for which Mr. E. Ardagh, of Auburn, received a first award. A perfectly formed specimen of A. K. Williams, in the latter exhibitor's stand, was awarded the president's (Mr. W. H. Moule) prize for "the best Rose in the show, selected from any stand." A well merited first award went to Messrs. G. Brunning and Sons, of the St. Kilda Nurseries, for twelve Teas and Noisettes, and an equally attractive collection of decorative Roses, staged by Mr. R. Cheesman, of the Brighton Nurseries, was also placed first in its section. In the amateur class, Mr. J. H. Simpson, of Surrey Hills, was the most successful competitor, carrying off the amateur champion gold medal for twelve blooms and first awards in several other sections, while the same grower's specimen of Marquise Litta won the special prize offered for the best red Tea Rose in the show. The Rev. Canon Godby, a successful competitor in some of the amateur sections, and placed second for the championship, staged a superb bloom of Mrs. George Dickson, and with it won the award for the best Rose in the amateur class. Other successful competitors were Mr. H. Hitchcock, of Geelong, Mr. H. W. McKiernan, and Mr. W. Annear, all of whom were first prize winners."

Mr. Rumsey mentions also that Marquise Litta Rose was finer with him last year than it has ever been before.

OBITUARY.

SIR HENRY COLLETT, K.C.B.

THE death occurred, on December 21, at his residence, Cranley Gardens, S.W., of Colonel Sir Henry Collett, K.C.B., who was for more than thirty years in India, and served in the Abyssinian, Afghan, and Burmese wars. Colonel Collett was greatly interested in botany and plant collecting, and was instrumental in introducing several new plants, chiefly from Upper Burmah and the Shan States. In the Journal of the Linnean Society, vol. xxviii, appears a paper prepared by Colonel Collett and Mr. W. Botting Hemsley, which gives an account of his botanical rambles in Upper Burmah and the Shan States, together with a description of the new plants found by him. Of these, *Lonicera Hildebrandiana* and *Rosa gigantea* are the most familiar. Although Sir Henry was the first to describe and to introduce this Rose to England, it had previously been discovered by Dr. Watt in 1882 in Munneypore. Dr. Henry and Mr. Hancock have since found it in Yunnan. Of the *Lonicera*, Sir Henry wrote: "I found it in only one locality. It is a conspicuous shrub, with large, dark, glossy leaves, and fine crimson flowers 7 inches long, and by far the largest of any known species of Honeysuckle." Two Orchids were also introduced by him, namely, *Cirrhopetalum Collettii* and *Bulbophyllum comosum*. *Rhododendron collettianum* was discovered by Colonel Collett and Mr. Aitchison in 1879, and *Rosa Collettii* by the former. Sir Henry Collett was elected a Fellow of the Linnean Society in 1879. At the time of his death he was engaged upon a handbook of the Simla Flora, and this, we believe, is almost ready for publication.

SIR HENRY GILBERT, F.R.S.

THIS distinguished agricultural chemist died, we regret to hear, at his home at Harpenden, at the advanced age of eighty-four, early last week. Sir Henry Gilbert was director of the Rothamsted laboratories, in conjunction with Sir J. B. Lawes, for very many years. In 1893 he was knighted, this being the jubilee year of the Rothamsted experiments in agricultural chemistry.



COLCHICUM SIBTHORPII

1	W	<i>New Year's Day</i>	King's Taxes Due	Mo.
2	Th		4 th quart, 4.30 p.m.	
3	F			
4	S			
5	S	<i>2nd Sunday after Christmas</i>	Sun rises 5h 5m	
6	M		not 4 th p.m.	
7	Tu	<i>1st Amateur Car Ass Meet</i>	Winchester	
8	W			
9	Th	<i>Fire Insurance due</i>	New moon, 9.15 p.m.	
10	F			
11	S			
12	S	<i>1st Sunday after Epiphany</i>	Sun rises 5h 4m	
13	M	sett. 4 th 30m		
14	Tu	<i>Comm. of the United Hort. Benefit Soc.</i>		
15	W	<i>Com. of the United Hort. Benefit Soc.</i>		
16	Th	<i>Com. of the United Hort. Benefit Soc.</i>		
17	F	<i>Com. of the United Hort. Benefit Soc.</i>		
18	S	<i>Com. of the United Hort. Benefit Soc.</i>		
19	S	<i>Com. of the United Hort. Benefit Soc.</i>		
20	M	<i>Com. of the United Hort. Benefit Soc.</i>		
21	Tu	<i>Com. of the United Hort. Benefit Soc.</i>		
22	W	<i>Com. of the United Hort. Benefit Soc.</i>		
23	Th	<i>Com. of the United Hort. Benefit Soc.</i>		
24	F	<i>Com. of the United Hort. Benefit Soc.</i>		
25	S	<i>Com. of the United Hort. Benefit Soc.</i>		
26	S	<i>Com. of the United Hort. Benefit Soc.</i>		
27	M	<i>Com. of the United Hort. Benefit Soc.</i>		
28	Tu	<i>Com. of the United Hort. Benefit Soc.</i>		
29	W	<i>Com. of the United Hort. Benefit Soc.</i>		
30	Th	<i>Com. of the United Hort. Benefit Soc.</i>		
31	F	<i>Com. of the United Hort. Benefit Soc.</i>		

St. Philip and St. James
Société Française d'Art de Londres Meet
Royal Academy Sun 4h 3pm : s 7h 3am
Royal Academy opens All day (As above)
Royal Academy closes All day (As above)
Royal Canadian Hort. Soc. Nat. Acad.
Royal Canadian Hort. Soc. Spring Show
Edinburgh - 2-4-95 New moon to p.m.
Royal Gardeners' Orphan Fund Annual
Hill-quart day
Assession Day
Sun after Ascen Sun 4h 13m : s 7h 15m
Committee Meet United Hort. Ben & Troy
Oyster season ends
Moon first quart 1.40 p.m
Easter Law Sitings end
Bank Holiday Sun rises 4h 8m : sets 7h 46m
Bank Holiday Sun rises 4h 8m : sets 7h 46m
Royal Nat. Tulip Soc. (Southern Section),
Royal Hort. Soc. Committee, both at Trill Hall.
Full moon to 4h 5 m
Lively Sunday Sun 4h 59m : s 7h 55m
Trinity Law Sittings begin New Guild An
Gardeners' Royal Ben. Inst. Dinner, Hotel
Margate's Duke of Marlborough presiding, Royal
Hort. Soc. Show, Temple Gardens - 3 days
Moon last quart moon

Price 3d. Weekly. Post Free 15/- = Per Annum.

SEPTEMBER.

1	M	Partridge Shooting begins
2	Tu	National Dahlia Soc. Ex. & K H S Meet. New moon, 23.43 p.m.
3	W	Drill Hall, Westminster (Nat. Am. Gard. Ass. Meet.)
4	Th	
5	F	
6	S	Soc. Française d'Hort. de Londres Meeting
7	S	15th Sunday after Trinity Sun rises 5h 42m.
8	M	Com. Meet. United Hort. Benefit and Prov. meet 6h 30m.
9	Tu	See first quart., to 15 p.m.
10	W	Royal Caledonian Hort. Show—2 days
11	Th	(Wreath and Booked-bed Agst.—3 days)
12	F	Derbyshire Agric. & Hort. Show—2 days
13	S	
14	S	16th Sunday after Trinity Sun rises 5h 35m. at 6.10 130m.
15	M	Ex. London Dahlia Union, Royal Aquarium
16	Tu	days.
17	W	Fall N. M. 6.23 p.m.
18	Th	Crystal Palace Fruit Show—3 days
19	F	
20	S	
21	S	17th Sunday after Trinity Sun rises, 5h 47m. at 6.10m.
22	M	Meet. of Floral Com. and Ex. Com. N.C.S.
23	Tu	Com. Meet. of Dahlia Soc. & H. S. Com.
24	W	Autumn quarter begins, mid- Moon, last quart. 4.32 p.m.
25	Th	
26	F	
27	S	
28	S	18th Sunday after Trinity Sun rises 5h 55m
29	M	Michaelmas Day
30	Tu	

OCTOBER.

1	W	Pheasant Shout begins. New moon. 5 1/2 p.m.
2	Th	
3	F	
4	S	
5	S	Soc. Française d'Hort de Londres Meeting 10th Sunday after Trinity Sun rises 6h 7m. at 5.30 a.m.
6	M	Nat. Chrys Soc. 3 days Meet N.C.S. First Committee Rob S. Driffell Su.Am Su.Am (cont.) Ads. beg.
7	Tu	
8	W	Moon, first quarter, 3 21 p.m.
9	Th	
10	F	Transvaal War commenced 1899
11	S	Cont. Meet United Hort. benefit & Prov S. 20th Sunday after Trinity Sun rises 6h 10m. at 5.45 a.m.
12	S	Fire Insurance Due
13	M	
14	Tu	
15	W	
16	Th	
17	F	Full moon 6 1 a.m. Eclipse of moon 5 1/2 a.m.
18	S	
19	S	21st Sunday after Trinity. Sun rises 6h 33m. at 6.45 a.m.
20	M	Meeting of Floral Com. and Ex. Com N.C.S. R.H.S. Committee, Drill Hall
21	Tu	
22	W	Moon, last quarter, 10 45 p.m.
23	Th	Michaelmas Law Sittings begin
24	F	
25	S	22nd Sunday after Trinity. Sun rises 6h, 43m at 7.00 a.m.
26	S	Meeting of Floral Com. N.C.S.
27	M	Christ Church Chrys Show — 2 days
28	Tu	Hare hunting begins Kent County Chrys — a day at Lewesham. Highbate — 3 days.
29	W	
30	Th	All Hallowes Eve New moon 8 1/4 a.m.
31	F	Partial eclipse of Sun 7 1/2 a.m.

Show, Temp

[illegible][illegible]

JULY.

1	Tu	Nat. Rose Soc. E. Temple Car. Southampton, N. Y. Sun. Jan. 20. 10 a. m.
2	W	Hampton, N. Y. Sun. Jan. 21. 10 a. m.
3	Th	Hamley Horticultural Fete. — 2 days. Herndon, Va. Sun. Jan. 22. 10 a. m.
4	F	And W. of E. Rose Show. — Clayton Hort. Soc. — 2 days. — 10 a. m.
5	S	Calder and Sutrop Rose Shows. — N. R. S. Southern Show. — 2 days. — 10 a. m.
6	S	Nat. Rose Soc. — 10 a. m. — Sun. Jan. 23. 10 a. m.
7	M	60th Sunday after Trinity. — Sun rises 3h 53m. sets 8h. 10m.
8	Tu	Royal Hort. Soc. Society's Committee meeting. — 10 a. m.
9	W	First day. — 10 a. m.
10	Th	Fire fete. — 10 a. m.
11	F	Beckenham Summer Show. — 10 a. m.
12	S	Aylebury Horticultural Ex. (provisional). — 10 a. m.
13	S	Mo. first quart. — 10 a. m.
14	M	7th Sun. of Trin. Sun. 3h 50m. s. 8h 10m.
15	Tu	Com. Meeting of the United Hort. Benefic. Soc. — 10 a. m.
16	W	St. Swinburn. — 10 a. m.
17	Th	Nat. Rose Soc. Northern Show. Manchester. — 10 a. m.
18	F	80th Sun. of Trin. Sun. 4h 10m. s. 8h 10m.
19	S	Royal Hort. Soc. Society's Committee meeting. — 10 a. m.
20	M	Deft Hall, Westminster. — 10 a. m.
21	Tu	Cardiff and County Hort. — 2 days. — 10 a. m.
22	W	
23	Th	
24	F	
25	S	
26	S	6th Sun. of Trin. Sun. r. 4h. 10m. s. 7h 55m.
27	M	Mo. last quart. — 10 a. m.
28	Tu	
29	W	Birmingham. Carnation Show. — 2 days (provisional). — 10 a. m.
30	Th	Chersterfield Flower Show. — 10 a. m.
31	Th	



COMMON WYNNYIES

NOVEMBER.

1	Tu	Moon last quart, 6 24 a.m.	Nat Am Gard
2	W	Woolbridge Hyacinth Show	(As Meet)
3	Th		
4	F		
5	S	Societe Francaise d'Hort de Londres Meet	
6	S	Societe Francaise d'Hort de Londres Meet 6th 3pm	
7	M	Brighton & Sussex Hort Soc Show → 2 days 1.20 p.m. New Meeting 1.15 p.m.	
8	Tu	Law Staining Meet	
9	W	Shrewsbury Spring Show	Fire Insur Club
10	Th		
11	F		
12	S	2nd Sunday after Easter	Sun rises 5h 13m
13	M	Soc of Ed. 9am	
14	Tu	Com Meet United Hort Ben & Prov Soc	
15	W	Moon, first quart, 5 40 a.m.	
16	Th	East Ham Hort Soc Show at Ipswich	
17	F	Birmingham Spring Show → 2 days (previously)	
18	S		
19	S	3rd Sunday after Easter	Sun rises 5h 56m
20	M	1st 7h 20m	
21	Tu	Royal Hort Soc Committee, and National Amateur Soc, Duff Hall, Temple-on-the-Hill	
22	W	St George's Day	
23	Th	St Mark	
24	F		
25	S		
26	S	4th Sunday after Easter	Sun rises 5h 44m
27	M	1st 7h 19m	
28	Tu		
29	W		
30	Th	Moon, last quart, 10 58 p.m.	

DECEMBER.

1	M	Queen Alexandra born, 1844
2	W	Nat. Chryse Soc Royal Aquarium—3 days
3	W	Elved Committee Meeting (Guard Ass. Meeting)
4	F	
5	F	Soc. Française d'Hort. de Londres Meeting
6	S	2nd Sunday in Advent Sun rises 7h 5m
7	S	Soc. Meest. United Hort. Ben and Tre
8	M	Soc. Meest. United Hort. Ben and Tre
9	Tu	Royal Hort Soc Committee, Drill Hall
10	Tu	Grand Annual Meeting and Dinner
11	Th	Nat Rose Soc Annual Meeting and Dinner
12	F	1st Sunday in Advent Sun rises 8h 5m
13	S	3rd Sunday in Advent Sun rises 8h 5m
14	S	3rd Sunday in Advent Sun rises 8h 5m
15	M	Meeting N C S Ex Com Full moon
16	Tu	3rd Sunday in Advent Sun rises 8h 5m
17	Th	
18	Th	Sir R Owen died, 1892
19	S	Michaelmas Law Studies end
20	S	1st Sunday in Advent Moon last quart 8 p.m.
21	S	Sun rises 8h 5m
22	M	Sun rises 8h 5m
23	Tu	Winter quarter begins, 7 p.m.
24	W	Christmas Day
25	Th	Bank Holiday
26	F	
27	S	1st Sunday after Christmas Sun rises 8h 5m
28	S	New moon 9 55 p.m.
29	M	Licenses for Horses and Dogs expire
30	Tu	

AUGUST.

1	F	S	10 th Sunday after Trinity	Sun rises 4 ^h 30m
2	F	S	11 th Sunday after Trinity	Sun rises 4 ^h 30m
3	M	S	12 th Sunday after Trinity	Sun rises 4 ^h 30m
4	M	S	13 th Sunday after Trinity	Sun rises 4 ^h 30m
5	M	S	14 th Sunday after Trinity	Sun rises 4 ^h 30m
6	M	S	15 th Sunday after Trinity	Sun rises 4 ^h 30m
7	Th	S	16 th Sunday after Trinity	Sun rises 4 ^h 30m
8	Th	S	17 th Sunday after Trinity	Sun rises 4 ^h 30m
9	S	S	18 th Sunday after Trinity	Sun rises 4 ^h 30m
10	S	S	19 th Sunday after Trinity	Sun rises 4 ^h 30m
11	M	S	20 th Sunday after Trinity	Sun rises 4 ^h 30m
12	Tu	S	21 st Sunday after Trinity	Sun rises 4 ^h 30m
13	W	S	22 nd Sunday after Trinity	Sun rises 4 ^h 30m
14	Th	S	23 rd Sunday after Trinity	Sun rises 4 ^h 30m
15	Th	S	24 th Sunday after Trinity	Sun rises 4 ^h 30m
16	S	S	25 th Sunday after Trinity	Sun rises 4 ^h 30m
17	S	S	26 th Sunday after Trinity	Sun rises 4 ^h 30m
18	M	S	27 th Sunday after Trinity	Sun rises 4 ^h 30m
19	M	S	28 th Sunday after Trinity	Sun rises 4 ^h 30m
20	Tu	S	29 th Sunday after Trinity	Sun rises 4 ^h 30m
21	W	S	30 th Sunday after Trinity	Sun rises 4 ^h 30m
22	Th	S	31 st Sunday after Trinity	Sun rises 4 ^h 30m
23	Th	S	1 st Sunday after Trinity	Sun rises 4 ^h 30m
24	F	S	2 nd Sunday after Trinity	Sun rises 4 ^h 30m
25	F	S	3 rd Sunday after Trinity	Sun rises 4 ^h 30m
26	M	S	4 th Sunday after Trinity	Sun rises 4 ^h 30m
27	M	S	5 th Sunday after Trinity	Sun rises 4 ^h 30m
28	M	S	6 th Sunday after Trinity	Sun rises 4 ^h 30m
29	M	S	7 th Sunday after Trinity	Sun rises 4 ^h 30m
30	M	S	8 th Sunday after Trinity	Sun rises 4 ^h 30m
31	M	S	9 th Sunday after Trinity	Sun rises 4 ^h 30m

THE GARDEN

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[JANUARY 11, 1902.]

FELLOWSHIP OR COMPETITION.

THOSE who from experience have the best right to judge are watching somewhat anxiously the strenuous endeavours that are being made by women of education to embark in various branches of market garden work and trade. Nor is this feeling of anxiety prompted, in any sense, by unworthy jealousy, as some would have it to be, or mean desire to hinder the laudable efforts after self-help which are so admirable in all ranks of women at the present day. It is due rather to a well-founded misgiving lest aims, in themselves so praiseworthy, should end in disappointment and even worse. It is strange enough when one comes to think of it, that efforts equally strenuous were made not so many years ago, and not without good reason, to withdraw women of the agricultural working class from outdoor labour on the true plea of the many evils which followed in the wake of such employment. With the exception of hay making and occasionally in harvest, it is now rare to see women working in the fields. So much is this the case that it is impossible nowadays to obtain the services of a weeding woman, even in some parts of Wales, where, less than twenty years ago, the roughest parts of garden and farm work were done, as a matter of course, by women.

There is no manner of doubt that most kinds of garden work are well within the scope of a woman's powers, but it is not herein that the gist of the question lies. It is too soon as yet to form an absolute judgment on the new departure of training educated women as gardeners—the experiment will stand or fall on its own merits. But with regard to business speculations in nursery and market gardens this much may be said. Given the necessary qualifications of good business capacity and training, a fair amount of knowledge and indomitable perseverance, whether in man or woman, it may and probably will answer in cases—and this is the point—where there is sufficient capital to embark on a grand scale. Or, on the other hand, if the object be to make a modest addition to an already existing income, it is possible for any practical gardener to cultivate some speciality in fruit or flowers for which, if it be of first-rate quality, a ready market may be found. It is between these two extremes, however; that the prospect of real

success, owing to the keen competition which prevails, is poor indeed, hard and hopeless enough for a man with insufficient capital, still more hopeless for a woman. The smaller are swallowed up of the greater, and no amount of energy or diligence will avail to do more than to earn a scanty living or, in too many instances, to avert the final ruin. This is unpalatable doctrine, but it is true, as many a one can testify from bitter experience. It is time, therefore, that a word of warning should be left not unsaid to the ever-increasing number of those who are turning to gardening as a means, and in many cases thoughtlessly and ignorantly, as an easy and delightful means of livelihood. No greater mistake can be made.

Let us turn to another and more hopeful view of the situation. Less ambitious, but how much more practically useful is the help that can be given by wife, or daughter, or sister to strengthen the hands of the legitimate bread-winner of the family. The more highly trained and skilful the help can be the better. Who knows what disasters might have been averted, notably in farming and agricultural pursuits, in years gone by, if women had but recognised more fully their true position of the help-meet, instead of drifting, by reason of unwonted and transient prosperity, into the dangerous luxury of idleness.

With all our strictures on continental manners and customs, there is one fine feature of family life abroad which is seldom estimated at its true value, their co-operation and good fellowship in professional and business affairs. A case in point occurs to mind, though it is no new story. The late Louis Van Houtte, the remarkable man who has been called the father of Belgian horticulture, possessed in his accomplished wife and daughters an inestimable treasure. Mme. Van Houtte, who united great business capacity with a kind and womanly disposition, took her full share, together with her daughters, in the management of the vast nursery establishment founded by her husband at Ghent, with all its ramifications of literary work and direction of the annexed National School of Horticulture. It has been said that she was accustomed to work on an average twelve hours a day, attending to foreign correspondence as well as giving unceasing personal supervision to the multifarious details of the various departments which came under her control. After her husband's death she was able to carry on the business with conspicuous ability as heretofore, her son taking the practical management

of the plant growing with a staff of competent assistants, and, in fact, at the end of her life of seventy-one years she had relinquished none of her ordinary duties. There can be no divided opinion as to the beneficence of a partnership such as this, where it is practicable. What man would not welcome and be blessed by the skilful and unassuming help of his women folk in the inevitable struggles of early days? May we not, therefore, without risk of contradiction, earnestly commend to those women whose circumstances render it needful, fellowship in labour in family concerns—possibly even in distant parts of Greater Britain—rather than competition, in these over-stocked times, in the many walks of life, horticultural and otherwise, which are now equally open to men and to women.

NEW INCURVED CHRYSANTHEMUMS.

VERY few new incurved Chrysanthemums were submitted to the floral committee of the National Chrysanthemum and Royal Horticultural Societies during the past season, but some excellent examples were met with in different trade displays, which for very good reasons were not staged for adjudication. It is safe to predict a brilliant future for several of them, and there is good reason to suppose that next season will find most of the new sorts in the leading exhibitors' stands. Those calling for special notice are:—

Mrs. John Penford.—A large, massive flower, having broad florets of good substance. Colour silvery rose, with rosy purple colouring inside.

General French.—This is another large, deep, and massive incurved bloom with broad florets. The colour is a deep rosy lilac.

Mrs. F. Juason.—This variety has been described as White Curtis, which it resembles very much in form. It is pure white, and in consequence may prove a decided acquisition.

William Higgs.—In this variety we have the best incurved novelty of the past season, and one which will be a giant among the big blooms now so popular. It is a very large deep bloom of massive build, having long, slightly pointed florets of medium width and splendid substance, building up a globular flower of good form and great solidity. The colour is a bright buff with a faint golden tint, which deepens towards the base of the florets. The plant is dwarf and sturdy, and is by no means of difficult culture. First-class certificate awarded by the National Chrysanthemum Society, November 18 last.

Five other varieties which are almost absolutely unknown were seen in promising form in Mr. H. J. Jones's collection of plants, and to refrain from mentioning them would be an injustice to the general body of incurved growers. They are:—

Charles Blick.—A large massive bloom of broad and deep build, with long, broad, neatly arranged florets, developing a bloom of good form and splendid substance. The colour is white, tinted rosy violet, and the plant is of medium height.

Miss E. Seward.—This is a lovely flower of

remarkable depth. The florets are fairly broad, neatly arranged, building up a bloom of a beautiful symmetrical form and good substance. The colour is deep yellow, tinted reddish bronze. Plant of medium height.

G. Hunt.—A worthy variety to perpetuate the name of the grower, in whose honour it is being distributed. It is a large incurved of splendid substance, reminding one somewhat of a well-finished bloom of Lady Isabel. This new sort, however, promises to be more constant than the variety referred to, and has long, broad florets of good substance, making a deep flower. The colour is rosy violet on a white ground, with a whitish centre. On second crown buds it is rather late for the November shows.

W. Neville.—Another large incurved with fairly broad florets of good substance, and slightly pointed, building up a full flower of massive proportions. Colour, a pleasing shade of golden bronze.

John Lyne.—In this variety we have another bloom of considerable promise, a brief description of the flower being an improved form of Jeanne d'Arc, which it resembles in colour, though with a better petal. The latter are rather broader and make a bloom of better shape.

Two sorts staged before the National Chrysanthemum Society's floral committee deserve mention, although there appears to be just a little uncertainty as to their classification. They are catalogued in Mr. H. Week's list, and are worthy of a trial. One is *Mrs. C. J. Mee*, a large, massive incurved with long, broad, pointed florets; colour, rosy amaranth, with silvery rose reverse. The other is *Mrs. C. Crooks*, a large white of somewhat doubtful form. It is only fair to the growers to say that if these two sorts be grown on and late crown buds retained blooms quite equal to many which now find favour are most likely to result.

D. B. CRANE.

NOTES OF THE WEEK.

Forthcoming events.—Royal Horticultural Society Committees' meeting, Drill Hall, Westminster, January 14. United Horticultural Benefit and Provident Society Committee meeting, January 13. Annual Dinner of the Société Française d'Horticulture de Londres, at the Imperial Restaurant, Strand, January 18.

The Gardeners' Royal Benevolent Institution.—A general meeting of the above society will be held at Simpson's, 101, Strand, W.C., on Thursday, the 23rd inst., at 1 p.m., for the purpose of making certain alterations in the existing rules, as recommended by the committee of management. And the sixty-third annual general meeting of the members of this institution will be held at the same place and on the same date at 3 p.m., to receive the report of the committee and the accounts of the institution (as audited) for the year 1901; to elect officers for the year 1902, and other affairs; and also for the purpose of placing twenty pensioners on the funds. The chair will be taken by Harry J. Veitch, Esq., treasurer and chairman of committee, at 3 p.m. The poll will open at 3.15 p.m. and close at 4.30 p.m. precisely, after which hour no voting papers can be received. All the voting papers have been issued. If any subscriber has not received a copy, it is particularly requested that intimation be sent at once to the secretary, G. J. Ingram, at the offices, 175, Victoria Street, Westminster, S.W. The annual friendly supper will take place on the same date, also at Simpson's, after the annual general meeting, at 6 p.m., when Alderman Robert Piper (of Worthing) will preside. Friends desiring to be present are asked to kindly notify the secretary at 175, Victoria Street, S.W.

Will you plant an Oak?—Would you like to plant an Oak tree to celebrate the new century? The Rev. W. Wilks, Shirley Vicarage, Croydon, has collected a large number of Acorns of a magnificently foliaged Oak (*Quercus rubra*), and he will be very happy to send four or six Acorns of it to any fellow of the society who likes

to send him a small cotton bag about 4 inches by 3 inches, together with a ready-strung and directed and stamped 1d. label. There must be nothing left for him to do but to put the Acorns in and tie round the neck of the bag with the string attached to the label. He cannot reply to communications which do not comply with this direction. N.B.—In planting the Acorns, do not plant too deep, half an inch below the surface is ample; lay the Acorn on its side, not on any account upon its base; guard from mice; remember, in choosing a spot, that it will in time grow into a very large tree, larger, or at least taller, than our common Oak, although the Acorns are so much smaller.—*Journal of the Royal Horticultural Society.*

Early Potatoes—a warning.—No doubt many amateur gardeners who for want of something to do at the present time spend some time looking through their gardening guides and annals, have come across directions for the planting of seed Potatoes about this time of the year. They are told to place the tubers somewhere in the light, and when the eyes have sent out sprouts a couple of inches in length to plant them in freshly dug soil, so as to ensure a good crop of early Potatoes. Now, I have had considerable experience in the growing of Potatoes, and I would warn anybody who does not wish to court disappointment against following these directions, more particularly if the soil of the garden be at all heavy. No matter how well drained the garden or loose the soil, seed Potatoes planted now will not thrive. The earth is necessarily at this time of the year cold and wet, the atmosphere is damp and chilly, and tubers planted now cannot, for these reasons, produce good results. The coldness and dampness of the surroundings check the growth the eyes have already made, they are weakened, and fibrous roots cannot be formed because of the lack of the conditions necessary, for there must be a certain amount of warmth to enable life to continue. The heavy rains of February and the sharp frost we invariably get in the early part of the year prevent the seed tubers from making satisfactory progress, and if they do live one cannot hope for more than a couple or at the outside three eatable Potatoes when they are lifted, whereas the yield from seed planted at the beginning of March, and carefully attended to afterwards—sown so as to get some protection from frost, and earthed up by having soil loosely brought around the stems and not the earth merely banked up in clods—will be two or three times as great, of better quality, and not one week later.—P. LONGHURST.

Psychostachys urticifolia.—Dark blue flowers are somewhat rare at any time, much more so in midwinter, the plant under notice being one of the few winter-flowering plants to produce flowers of this colour. It can hardly be said to be everybody's plant, being too coarse for establishments where neat subjects suitable for house decoration only are considered. It is a native of Tropical Africa, and is of *Salvia*-like appearance. The leaves are Nettle-like and on strong plants, 8 inches to 9 inches long and 7 inches wide in the widest part. The flowers are in dense, conical, terminal racemes, and commence to open in December, continuing until February. If treated in a similar manner to *Salvia*s no difficulty need be experienced in its culture.—W. DALLIMORE.

Broccoli Sutton's Christmas White.—Unquestionably this is one of the most useful Broccoli in cultivation. The only other sort that I am acquainted with that will furnish good white heads in midwinter is *Snow's*, a very old variety, as is well known, but still good when a true stock can be got, but I do not hesitate to say that Christmas White is a distinct improvement. We have it growing side by side here with *Snow's*, and now (the last day of December) nearly every plant is turning in, while only a small percentage of *Snow's* is showing, and another great point in its favour is that it appears to be more hardy. This variety should be cultivated in all gardens where Broccoli of high quality is esteemed.—E. BECKETT.

New Potato Carltonian.—The raiser of this new variety, Mr. Taylor, sent a few tubers last spring, asking me to give it a trial, which I

did, with many other well-known varieties, and I am glad to say that it proved to be all that he claimed for it. It is extremely handsome, evidently an ideal exhibition variety and quite distinct from any other varieties with which I am acquainted. A heavy cropper, and with us quite free from disease. I am fully convinced that it will become a popular mid-season variety, as the quality is excellent. It appears to have been well thought of at Chiswick, as it was selected and given an award of merit with a few others. The award was confirmed by the committee at the Drill Hall on December 17. I understand that Messrs. W. Cutbush have secured the stock, which will be distributed in due course, and all that are on the look-out for good novelties should secure it.—E. BECKETT.

French Beans unprofitable in winter.—Few vegetables force more readily than the Dwarf Bean, but in this note I do not intend to advise about varieties or culture, but simply to point out how unprofitable this crop is when sown for supplies at Christmas. I have never yet succeeded in growing this vegetable, as I should wish, say, from October to January; neither have I ever seen what may be termed a profitable crop of forced Beans at the season named. Though good plants may be raised by sowing in frames in October, the flowers usually fail to set in December and all the labour is in vain. It may be asked why note a common failure, and the reason is to prevent failures in future. There is now a better prospect of success, as seed sown now will produce plants to bloom when the days are lengthening: I would not advise a large sowing until a month later. In the southern part of the kingdom growers who force may have had greater success than I have, but even then I do not think this vegetable pays for outlay at the season named, as in the south large growers tell me the crop does not pay in midwinter, as the plants are not reliable.—G. WYTHES.

Winter Pears.—I am aware that the above fruits have been noticed before in THE GARDEN, but would like to allude to their excellence at this season, viz., from now until March, as by growing several trees in different positions the fruits may be had at the season named. In our light soil we have no Pear to equal *Nouvelle Fulvie* at this time of year. *Easter Beurré* is useless; it spots and cracks badly at times, whereas the one named above does well in the open or on a wall, but our latest fruits are from pyramid trees in the open. President Barrabé promises well, but we have been unable yet to test its cropping qualities in all positions. What makes the older variety so useful is its free cropping. It crops regularly, and when others fail this bears freely. It is a delicious fruit when ripe, but needs care in gathering and storage. If gathered early it shrivels badly, and this should be avoided. The flesh is melting, very juicy, and the flavour delicious for a late fruit. I have been obliged to thin freely as the trees crop so heavily.—G. W.

Acacia urophylla.—Of the many Australian *Acacias* suitable for greenhouse culture, the one under notice is both distinct and rare. It flowers naturally in midwinter, being several weeks in advance of most of the other species. By careful attention to pruning when young it grows into a shapely symmetrical and graceful plant, the branches being light and pendulous. The leaves, or phyllodes, are $2\frac{1}{2}$ inches to 3 inches long by half an inch wide, pale green, and rather sparingly produced. The flowers are in small spherical heads, and borne freely all along last year's shoots. They are paler in colour than those of most *Acacias*, being almost white. It succeeds well whether grown as a pot plant or in a border, but makes a much finer specimen grown in the latter way. However grown pruning should receive attention as soon as the flowers are over. This should consist of thinning the shoots and shortening back those left to within a few eyes of the old wood. If, when planted out, growth becomes too rank at the expense of flowers, a little root pruning may be done, but with care, as all *Acacias* are impatient of interference at the roots if done in an unskilful manner. In the Temperate house at Kew a fine specimen of this species may now be seen in flower.—W. D.

To idle folk.—By "idle" we only mean "not quite so busy as ourselves." And should this catch the eye of any such, we ask them: Why do you not set to work to hybridise something—to raise some new varieties or some new and improved strain, for the benefit of future generations of garden-lovers? There is a wonderful opening nowadays for anyone who really loves plants. Let them only take up one, or at most two genera, and work—aye, work at them; turn them and twist them this way and that way; hybridise, cross, select, in all directions, backwards and forwards, and cease not till something good, something well worth having, rewards their labour. And for choice take hardy plants in hand, because the number of people you can benefit with them is so much greater than with glasshouse plants. What shall you take? Well, really, everyone must choose for himself; but that you may not say you can think of nothing we suggest—Why not seek to raise up a whole race of brilliantly-coloured and perfectly hardy Anemones by crossing the common wood Anemone with Anemone coronaria, in all its glorious colours, and also with Anemone stellata? True A. coronaria and A. stellata are both of them hardy in a sense and in some places, but nothing like A. nemorosa, the common Windflower of our woods in spring. Think how generations yet unborn would bless you if you could present them with a strain of nemorosa with all the colours of coronaria and stellata, still preserving the lovely form and free-flowering habit of nemorosa. And this is but one example; there are abundance of others as easy—or, it may be, as difficult, for till it is tried no one can tell whether such a cross would be easy or difficult; but difficulties should not discourage us—only inspire us to overcome them.—*Journal of the Royal Horticultural Society*, December, 1901.

Late flowering Nerines.—While the bulk of the Guernsey Lily family have long finished flowering two of them frequently bloom into the New Year. They are *N. undulata*, often known by the specific name of *crispa*, and *N. Manselli*, a hybrid form. The first named—*N. undulata*—has narrow grassy leaves, which are well overtopped by the flower stem, reaching as it does a height of 15 inches or thereabouts. The flowers, which are arranged in an open head, have extremely narrow segments, so wavy in outline as to suggest the two specific names previously mentioned. They are mostly of a pleasing shade of light pink, but vary somewhat in this respect. Owing to its frail appearance, both in leaves and blossoms, this Nerine is seen to far greater advantage when grown in clumps, say in pots 6 inches in diameter, than when grown singly. Like all the rest it is a native of South Africa, and was introduced therefrom under the name of *Amaryllis undulata* in 1767. The second to mention—*N. Manselli*—is a seedling raised in the one time celebrated nursery of Messrs. Henderson, St. John's Wood. It was purchased in 1880 by Mr. Mansell, of Guernsey, under the name of *N. cinnabarina*, but on flowering proved so distinct and valuable, owing to its late flowering, that it was named in honour of that gentleman, who has before now in THE GARDEN given us its early history. Since then it has gradually made its way into the different collections of this charming class of plants. In the Kew Hand List its parentage is given as *flexuosa* × *Fothergilli*, but on this point there seems to be a certain amount of doubt. Nerines, in common with several other South African bulbs, require a compost consisting principally of good sandy loam, in which they will remain undisturbed for years, and a period of absolute rest during the summer months.—T.

Late Chrysanthemums.—In addition to the varieties named by Mr. Beckett (page 422) add The Queen and Golden Gate; the former is an exceptionally fine white-flowered variety sent over to this country by Mr. Nathan Smith a few years since. I tried it then as an exhibition variety, but it has such a habit of losing its best buds by immaturity that it was rendered quite useless for show, and, seeing how strongly the terminal shoots grew afterwards, I determined to test it thoroughly

as a late-flowering sort, and right well it has succeeded ever since. The flowers are of the purest white, quite shapely, with long, reflexing florets. This is the variety which is, I believe, largely grown in Germany and highly prized in the Emperor's garden at Potsdam. Golden Gate, as is well known, is a really good yellow-flowered variety when grown to produce large blooms, but in this respect is tinged with bronze.—E. MOLYNEUX.

Rose Mme. Lambard.—I agree with Mr. Crook that this Rose is one of the best we have for a wall in a cool house. In the garden at Corhampton House, close to where I write, it can be seen in perfection in a cool Peach house covering the back wall, and giving huge quantities of grandly-coloured blossoms in March and April especially. Here in a warm greenhouse for years we have had very fine flowers from a plant on a back wall 14 feet high quite early in the year, and through the summer also. As an outdoor variety it is difficult to suggest a better Tea Rose for continuity of flower, while its form, colour, and perfume are delightful.—E. M., *Bishop's Waltham*.

Peach Bellegarde.—I regard this Peach as one of the best outdoor midseason varieties we have; it is hardy, grows freely, and with ordinary care crops heavily. The highly-coloured fruits are of excellent flavour. The same virtues are apparent when this variety is grown under glass.—E. M.

Gardening in India.—Mr. Norman Gill, who left Kew for Calcutta in 1900, writes as follows to the Kew Guild Journal: "Horticulture in India does not come up to my expectations, but considering the climate, the ignorance and laziness of the natives, the insects, and the weeds, it is little to be wondered at. The land is scorched in the dry season, and deluged with rains in the wet season. Even water gardening is carried on under great difficulties; if the lakes are to be kept anything like clean, it is necessary to draw a grass rope over their surface once a week, and an occasional dredging to the bottom to prevent the overgrowth of Chara, Azolla, Lemna, Marsilia, Aponogeton, Salvinia, &c. Should this dredging be neglected such aquatics as Victoria, Euryale, Nymphaea, &c., would be choked in a short time. The tortoises here are a nuisance. I have known them destroy Victoria regia. Good experienced gardeners are scarcely obtainable, and the labour required to keep a garden in India may, without exaggeration, be estimated at more than double that necessary at home."

Mr. E. H. Wilson, who during the past three years has been in China collecting plants for Messrs. James Veitch and Sons, Limited, in an interesting letter to the Journal of the Kew Guild, says: "The Manchos, and not the Chinese, are the cause of nearly all the trouble in China. The average Chinaman is a peace-loving, law-abiding person, quite willing, nay anxious, to trade with the foreigner. The Manchun, on the contrary, is jealous of the foreigner. Nearly all the highest officials are Manchos, and these are all more or less anti-foreign. The Chinese are a peculiar people, and their temper is most uncertain. My collecting goes on apace; every day adds something to my stock, either interesting, valuable, or both. On a recent trip I met with Davidia in quantity. I saw upwards of 100 trees of all sizes up to 50 feet high, the majority in flower. On the same trip I came across an Abies forest; some specimens were 16 feet in girth and fully 150 feet high!"

ON THE CULTIVATION OF ONCOCYCLUS IRISES.

By THE LATE REV. H. EWBANK, M.A.

THE secretary will bear me witness, I know, that I have never had any thought of instructing the members of the Royal Horticultural Society on this rather difficult subject, and if he had not urged me to retail my experience I should never have done it. I confess to being excessively interested in it, and I have been so for a long time; and it does happen that there is one point about which, according to my present ideas, some very con-

siderable light has been vouchsafed to me of late, and this I am ready to lay before the society now; or, to put the same thing in a rather different way, I will explain the point at which several of us have arrived. My readers must kindly understand that Sir Michael Foster and Herr Max Leichtlin have been my special instructors, and I do not think I have deviated in principle from what the former laid down in his article in THE GARDEN, November 28, 1891, and also in visits which I have paid to him, or from what fell from the lips of the latter on different occasions at Baden-Baden. My own article in THE GARDEN, September 1, 1894, was little more, and it certainly never laid claim to being anything more, than the application of their theories to my own practice in the Isle of Wight.

And now for results. They have been of a very varied description. I do not think that I have ever been without a fair number of blossoms; it has been sometimes more and sometimes less: in some years I have been greatly delighted with success and I imagined that the whole thing had been done, and then my expectations were dashed and I have not met with the improvements I desired. It is, however, only right to say that my garden is a sort of horticultural trial ground, and I should occasionally have done better than was the case if I had been content to let well alone; but I have constantly gone in for improvement, and improvement has not always come off. One year I severely injured my whole collection, and I lost a great many Irises through an experiment, for which I thought there was justification, but the event showed plainly enough it was not so. Results, therefore, have often been of a rather mixed description.

There has been quite enough of good about them to make me feel sure I was on the right track. I have frequently had some very splendid blossoms, and yet enough of uncertainty and imperfection remained to make me long for a more decided advance. This decided advance has come at last, I think, and it is that which I venture to describe to you now. I can only tell you how things are with me on this head up to date. It is a very odd thing, as I dare say you have noticed, how, with discoveries of a magnificent and universal importance, and also with those of a trivial and very insignificant value, precisely the same thing seems to strike different persons at the self-same time. There is no claim, of course, made for the subject of these remarks that it belongs to the first of these two classes. But small and trivial as it is, it illustrates a sort of general law so far as it can do it. Not a few of those who were anxious to know what these Oncocyclis Irises most desire to have given to them altered their opinions at about the same time. It was very odd indeed that we all seemed to come last autumn to think that lime in some shape must be given to them so as to do well, whereas no one, so far as I know anything about the business, had ever *emphasised* or said very much about it before. This is the singularity of the whole affair. Whatever Herr Max Leichtlin says to me about any horticultural matter, I accept it without asking any question at all. Now, I perfectly remember his saying to me at an early date when the modes of cultivation for these Irises were discussed: "I do not think that the question of soil has anything to do with success in this matter. It depends on other considerations altogether." So after this piece of instruction I gave myself up to find out what "the other conditions" demanded, and I fondly imagined that good loam and perhaps some road grit would supply everything that was required in the way of soil. I thought I might leave soil alone and that it had been sufficiently considered. It was also noticeable in Sir Michael Foster's instructions in THE GARDEN, November 28, 1891, to which I have referred above, how very little he says on this head. He only incidentally notices the fact that he lives upon chalk, and his words run thus: "On my own bleak chalk hill, where, in seasons other than the present one, the soil, specially the subsoil," &c., but he does not at all emphasise what follows from it, viz., that a good deal may be owing to this, and a little lower down in his communication he even raises a doubt

as to whether there is any chemical efficacy about chalk with regard to these Irises, for he says about a place which is near his own, and where *Iris susiana* does well: "Yet there must be something in the place in question, something in the conditions, something perhaps in the soil, and if so something probably in the physical rather than in the chemical nature of the soil which determines success," &c. But this is the very point on which I should now respectfully join issue with him.

I venture to submit, though this is rather antecedent what has to follow, that the great reasons why *Oncocyclus* Irises like Sir M. Foster so much are, first of all, because they naturally take to one who knows so much about them; but secondly, and principally, because they do affect the chemical nature of the soil with which they are certainly provided in his place, and, not as he in this passage suggests, because of its physical properties, which are of less account with them. It is chalk or lime in some shape or other which I believe is, with many of them, a kind of necessity for their well-being—a downright food—and the whole purport of this paper is to make it evident that such is the case. But, as showing how far some good horticulturists have gone on the wrong tack about this, I may be allowed to mention that Mr. Amos Perry, who is one of our best nurserymen, said to me that he considered it good practice

if "4 inches or 5 inches of soil are taken off the bed where *Oncocyclus* Irises are grown and they have a heavy dressing of manure to that amount." This I should now esteem to be quite out of the question, but Mr. Amos Perry is by no means singular in the opinion he held. I have been over the fine gardens of Messrs. Herb and Wulle at Naples, and we discoursed about Irises for a long time, but I never heard a word from them about the advisability of having a chalky soil, nor do I remember anything pointing to it. With M. Dammann, of Naples, it was different; he also grows *Oncocyclus* Irises near the slopes of Vesuvius, and he did tell me that *Iris Gatesii*, *Iris Lortetii*, *Iris susiana*, and *Iris iberica* have a mild inclination for some chalky soil, but he mixed it up with so many other things—e.g., sandy loam, black-red loam, mould, old manured Cucumber soil—that its value was obscured, and I had very confused instructions to go upon, and I found it rather hard to comply with them, and so gave them up; but it is true that he did say something about chalky soil *inter alia*. Mr. F. Moore, the well-known director of the Royal Gardens at Glasnevin, has written to me that "he always used lime rubbish from old walls in making up the beds for *Oncocyclus* Irises, and then he gave them weak manure water in April to counteract the poorness of the soil."

Mr. F. Burbidge, whose experience in these things is so great, has written to me: "That is a most valuable observation of yours, i.e., lime or chalk for the Cushion Irises. May not this account for the unique success of Sir Michael Foster, F.R.S., who, as you well know, grows these flowers on the breezy crest of a chalk hill up among singing larks in the flinty Barley fields at Great Shelford?" This would tend to show that Mr. Burbidge had not before this year come to any definite conclusion about the advisability, or rather the necessity, of lime being used, and so also with several others. I am far from saying that lime has not been used at all in the cultivation of these splendid flowers. Mr. F. Moore, for instance, tells us that he used lime rubbish from old walls in making up his beds, but no great stress has ever been laid upon it so far as I know anything about the matter. Many have gone on, year after year,

"pegging away" at this point and that, but they have all the while completely overlooked the most important factor in the way of commanding success which can be anyhow named. It has not held the right place, in our estimation, at all, and has often been obscured and sometimes quite forgotten in the practice we follow. I would assert with all the strength and emphasis I can command that *Oncocyclus* Irises not only put up with, and are benefited by, the presence of lime in the soil, but that it is imperatively required by them in some shape, and they must have it if they are to do really well and also continuously. From what I have seen in my own garden, and the difference between this year and all the other years that have gone before it, I have come to think that lime is the missing link, so to say—the *sine quâ non*—the imperatively needed factor in the cultivation of these beautiful flowers, and it should not be spoken of as a thing which may or may not be supplied, but as a prime necessity without which success can be only very comparative, but with which (other things being right) good results will ensue: and I feel so certain that this is very often left out of sight and not at all understood that I venture to add words to words so as to bring it quite clearly to the front.

Now it is a fact that light came to me and to

quite correct, that Mr. Potter, the foreman of Messrs. Backhouse, at York, has to do with two gardens—one in Oxfordshire and the other in York. In the former of these two gardens (at Witney, I think) *Iris iberica* grows like a weed, in the other it will not grow at all; and he can only account for it by saying that in the one place it meets with plenty of lime, in the other it has none at all. And when my suspicions had been awakened by one thing and another, and I was musing over the matter, I received a letter from abroad in which the following words occur:—"From what I can see of my *Oncocyclus* Irises this year and the past season, I get more and more convinced that the want of lime in our soils is one of the chief sources of failure," &c. It all seemed to be tending the same way, and tallied exactly with the ideas that were then in my mind.—*Reproduced by permission from the Journal of the Royal Horticultural Society.*

(To be continued.)

INTRODUCTION OF THE FLORIST'S AURICULA.

THE Rev. F. D. Horner, writing in THE GARDEN of June, 1881 (vol. xix., page 601), makes the following statement regarding the first introduction of the Auricula to England: "When is perhaps not so exactly known as where, on which point there is the evidence of well-kept, unshaken tradition, corroborated by local evidence, that its early English home was especially Lancashire. In 1725 we have evident proof that the Auricula was established in Lancashire."

We have, however, in the rooms of the Spalding Gentlemen's Society written records that the Auricula was equally at home in this district, for in the minutes of the Spalding Gentlemen's Society we have an entry on April 22, 1725.

April 22, 1725.—The secretary communicated to ye society a peep of an Auricula Ursti called "Grand Paisant" of this size of a deep crimson and like V. W. H. with a yellow eye. There were seven upon

ye truss, the largest was laid upon this paper, and the size and shape marked exactly.

April 7, 1726.—Mr. Mills brought with him a very curious and large Auricula, green striped, with dark red and yellow and a fine white eye; and the peeps of a great many other Auriculas very beautiful and now in blew in his potts.

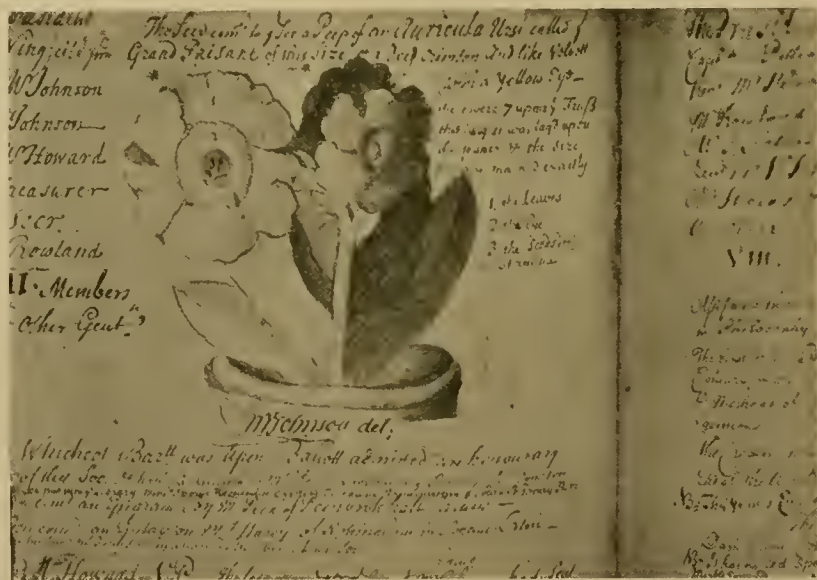
N.B.—This fine flower thrives best in pots in a light earth mixed with sharp sea sand and not exposed either to the sun or rain from the time it begins to blow.

From ye observations of Mr. Everard, secretary Gentlemen's Society, a curious florist.

March 28, 1728.—Dr. Green brought an Auricula Ursti with a truss of forty-five peeps or flowers of a deep crimson colour, with a white eye well powdered.

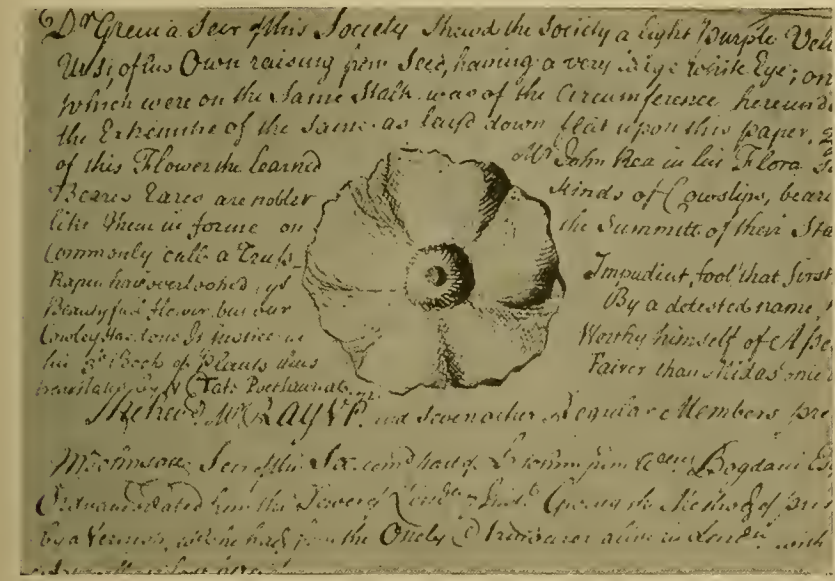
May 1, 1729.—Mr. Rowland shewd the society a truss of an Auricula bearing thereon 107 peeps or flowers, the stalk very flat and broad.

April 22, 1730.—Dr. Green, secretary, shewd the society a pullett's egg, &c., also several peeps of Auricula Ursti limbed by him very neatly, and a stalk bearing six of the double yellow Auricula Ursti growing not on the topp together in a truss as usual but three one over against the other, and the largest at the summitt or end of ye stalk in the manner of spiked flowers.



THE OLD AURICULA "GRAND PAISANT." (From the records of the Spalding Gentlemen's Society.)

others simultaneously last year, and, as we think, in rather odd ways. We put two and two together, and there was only one conclusion to be derived from it all, which is, that most of these *Oncocyclus* Irises, if not all, are essentially lime-loving plants; they may, perhaps, get on without it for a time, but they will get on much better with it, and all who want to succeed with them should bear this consideration in mind. Our discovery came about in this wise:—My friend here, Mr. Blair Cochrane, of Oakleigh, St John's Park, is fond of his garden, and he took it into his head that he would grow *Oncocyclus* Irises; he accordingly bought a good lot of them, and he proceeded to plant them forthwith. It so happened that an addition was being made to his house, and without more ado he used a great deal of the rubble or old mortar which was lying about the place and he put his Irises in it: he also used the other measures which seemed to be necessary to success. The winter before last was not an especially easy one, but the plants, so to say, sailed through it, and he had a great deal of blossom the next spring with very little trouble about it. This was his first attempt, and he was led to suppose that the difficulty of growing *Oncocyclus* Irises had been very much exaggerated. Also I was told a short time ago, and it was a very curious circumstance, which I believe to be



LIGHT PURPLE AURICULA. (From the records of the Spalding Gentlemen's Society.)

April 5, 1739.—Dr. Green, a secretary of this society, shewd the society a light purple velvet coloured Auricula Ursi of his own raising from seed, having a very large white eye; one peep of three which were on the same stalk was of the circumference here under drawn round the extremitie of the same as laid down flat upon this paper 2 inches diameter.

Of this flower the learned Dr. John Rea in his "Flora" says: "Auricula Ursi (Beares Ears) are nobler kinds of Cowslips, bearing several flowers like them in form on the summitt of their stalk in what wee commonly call a truss."

Rapin has overlooked this beautiful flower, but our own Cowley has done it justice in his third book of plants thus translated by N. Tat, Poet Laureate.

"Impudent fool! that first stil'd beauteous flowers
By a detested name the ears of bears;
Worthy himself of asses ears a pair
Fairer than Midas once was said to wear."

May 10, 1739.—Dr. Green, secretary, shewd the society a curious lusus in a peep or flower of an Auricula called Potter's Glory of England, having from the middle of it another peep rising up, but reversed so that the stripes of that peep were on the outside of the leaves as those of the main peep were as usual on Auricula Ursis on the inside.

Note.—This peep or flower being dissected has two distinct seed-vessels standing laterally.

May 24, 1739.—(A dried flower of an Auricula is here pasted in the minute book. S. H. P.).—This is the lusus or peep of an Auricula Ursi, one within the other produced by Dr. Green, secretary of this society, the 10th of this month, commented on in the minutes.

These entries put Spalding on a level with Lancashire as regards claims for first cultivating the Auricula.

As regards Mr. Horner's question as to when the Auricula was introduced, in Bradley's "New Improvements of Planting and Gar-

dening," published 1724, it states that "some few years ago that I have known one root of it sold for twenty guineas, but that was indeed when they began first to appear in our climates." This Mr. Bradley was an excellent gardener, a scientific and a keen observer. He was a Fellow of the Royal Society, and he it was who made that greatest of all botanical discoveries, the pollenisation of flowers. A man of his stamp can be absolutely relied on when he states a simple and easily ascertained fact and brings such proof for his statement.

Therefore we may be certain that within twenty years of 1724 the Auricula as a florist's flower was first introduced into England.

Mr. Bradley also publishes the first known code of rules for a florist's Auricula. They are as follows:—"A good Auricula ought to have the following excellencies—First, that the flower stem be strong and substantial; secondly, the foot-stalks of the flowers must be short, and capable of supporting the blossoms upright; thirdly, that the pipe or neck of each flower be short; fourthly, that the flower be large and of a regular form; fifthly, their colours should be bright and well mixed; sixthly, that the eye be large, round, and of a good white; seventhly, that the flowers spread themselves flat, and be no ways inclinable to cup; and,

lastly, that there be a good truss of flowers equally spread upon the stalk." So you will see there was already a set of laws framed for this plant so early in its history as 1724.

S. H. PERRY, M.R.C.S., &c., Spalding.

The prototypes of the florist section of Auriculas, I believe, came to England with the introduction of the weaving of woollens, and were favourites that the immigrant weavers brought into eo-exile with them from the Continent. I can quite understand that some would land on the eastern seaboard county of Lincolnshire, but that more was seen and grown of the Auricula in the industrial centres of counties York and Lancaster. When cotton appeared as a textile fabric, it was somewhat a puzzle for the "woollens hands" to name! And, holding still to familiar names, the raw cotton fibre was but a form of their old staple—and they called it "cotton wool."

The old minutes of the Spalding Gentlemen's Society are very quaint and interesting.

The fasciated truss of "107 peeps" reminds me that at the old Middleton Lancashire show there was ever a prize for "biggest bunch." It was a sort of "frolic home," and never taken seriously as mere bigness (megalomania) is in London. "To my sinful sorrow" (Mrs. Gamp), I once won the "big bunch" prize at Middleton, with an unruly contumacious bunch of Duke of Argyll (crimson self).

The scathing poet of the period did not notice that, do as he would, he could not eradicate the idea of "Eares" out of the botanical name "Auricula," and that it applied after all, and not disparagingly, to the innocent foliage of the plant.

"The first known code of rules" for a florist's Auricula is according to the lights of the time; and "the Excellencies" to the attainments thereof. The blossoms cannot all "be upright," and the length of the "pipe or neck," i.e., of the tube, is immaterial, through no faultiness occurring either way, edged flowers generally being shorter in tube than the selfs.

Colours "to be bright and well mixed" is a rule now indistinct and out of date.

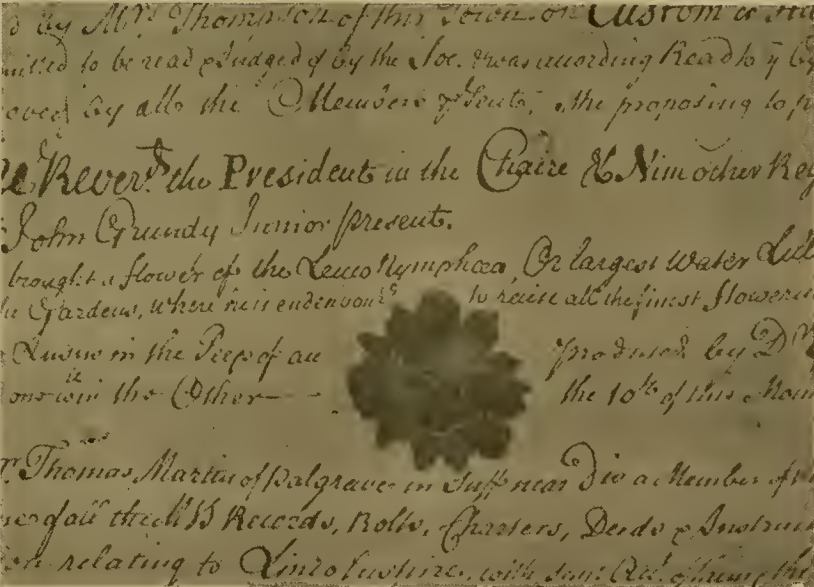
F. D. HORNER.

RIVIERA NOTES.

I NOTICE in this land of wild Tulips, where it is difficult to suppress them rather than to make them grow, that Tulipa saxatilis is year by year splitting up into offsets which are too weak to bloom. Each year the growth is earlier and weaker, the foliage being now fully developed without any sign of flower buds. Is it a dweller in igneous rocks, I wonder, for these limestone crags and mortar-like soil do not suit it evidently?

Another failure apparently is the lovely Tecophykea cyanocroens, but perhaps it needs more shade and shelter in this fierce climate, which tries its delicate constitution even when petted with mixture of light and fairly rich soils. It likewise resents the autumn heated ground and makes a weak and spindly growth far too soon in October. Do both these bulbs come from a considerable elevation?

Iris Vartani is so exquisite in colour and so careless of soil or position that I



A CURIOUS AURICULA SEEDLING. (From the records of the Spalding Gentlemen's Society.)

greatly wonder that it has not attained the popularity its pale sky blue flowers deserve. Save that it has no scent, I should always prefer it to *L. reticulata*, so well known and so commonly grown.

Gardens in England have discarded the old-fashioned tall-growing *Ageratum*. Just now the contrast between the weakling masses of the dwarf, so-called bedding, *Ageratum*, and the luxuriant masses of the original *A. mexicanum* is very striking, and satisfies me that the original form is far the most to be depended on. Grown in pots for the conservatory in winter it deserves every attention, for after the first forced bulbs come in a good bushy mass of its lavender-blue flowers is most effective. I tried the new and lovely *Coleus thysoides*, which gives the same colour, and flowers at the same time; but here, at any rate, "the old is better," and needs less warmth and shelter. After ten days of deluging rains one prizes the flowers that survive, so the *Ageratum*, with *Linum trigynum*, and the host of brilliant *Salvias* now in beauty, are the flowers of the day. It is curious to see how indifferent some flowers are to even the heaviest rains. The New Year will greet us brightly under present conditions.

E. H. WOODALL.

NOTES ON HARDY PLANTS

LEUCOJUM (SNOWFLAKES).

BEING, generally speaking, of easy culture, Snowflakes, like the allied *Galanthus*, or *Snowdrops*, are great favourites in gardens, and will become still more so when their great value as winter and spring-flowering plants is better understood. Take, for instance, the best of all, *L. carpaticum*. Collected bulbs require to be cultivated in a suitable spot for about a year, or when small perhaps for two years. When lifted and boxed up—without, however, letting the roots or bulbs get dry previous to the boxing up—they must be well watered, plunged in some light material, moss litter, old rotten manure, or fibre, and about November put the boxes in a cold frame under glass; during severe frost keep the boxes from being frozen. Frost would not hurt the bulbs, as they are perfectly hardy, but would retard the flowering. On no account allow them to want for sufficient moisture. Thus treated, they will not only flower about Christmas time, but produce fine long-stalked flowers most valuable at that time of the year. *L. vernum* can be treated in a similar way, but it is usually not quite as early as *L. carpaticum*. The later flowering *L. pulchellum* and *L. aestivum*, if well-matured large-flowering bulbs can be had, flower much earlier than the usual time by boxing them up and treating the same as the former. Snowflakes do not really force as well, for instance, as the *Narcissus*, and as bulbs grown in a slightly warmer climate and consequent earlier season flower often naturally quite as early, the extra trouble hardly pays.

Apart from their usefulness as cut flowers, Snowflakes are charming in the wild garden—in fact, they are better adapted for this than even the *Snowdrops*, especially in a stiff soil with plenty of moisture, and partially shaded and sheltered. In many parts of the continent *L. vernum*, the most common of Snowflakes, and next to *L. carpaticum* the best, is grown in a half-wild state in orchards among grass, on the banks of rivers, and in meadows. When in bloom during the early spring the flowers are picked and sold at good prices on market days, often, however, under the wrong name—in France often as *Percé neige*, while in the German speaking countries under the name of *Scheeglöckchen*, the name for *Snowdrop* (or *Galanthus*). The neatest way of offering them was in the city of Geneva. Several bulbs (about ten to twelve) were packed carefully in green moss and put in flower pots; with

their half-grown green leaves and barely developed flowers they used to fetch a good price. With the exception of *L. aestivum* (flowers imported to this country from France), I have rarely seen Snowflakes in the market, and those were invariably short stalked.

Under the name of *Leucojum* are now included, besides *L. vernum* and *L. carpaticum* (the real Snowflakes), which Mr. Baker classifies under *Erinosma* (1), *L. aestivum* and *pulehellum*; the *Euleucorium* (2); also the autumnal, winter, or spring-flowering species, formerly kinds known under *Acis* (3), which Mr. Baker gives as *Acis* and *Rumina* (4). The bulbs of the first group are globose, with a silky whitish or greenish tunic, three to five light green leaves 6 inches to 12 inches long and about half an inch broad; the peduncle is from 9 inches to 18 inches long; one, rarely two-flowered, in *L. vernum*, but usually two, or even three-flowered, in *L. carpaticum*; the flowers in both are pendulous, bell-shaped, creamy white, tipped with bright green and tinged yellow, while the anthers are golden yellow, rarely orange. *L. carpaticum*, when well grown, being much stronger in growth, is also the more easily grown of the two, and flowers earlier than *L. vernum*. It is a beautiful plant, and easily grown to perfection. A few years ago, at the Hale Farm Nurseries, Mr. Ware had some beds with several thousands of bulbs grown on the north side of a Privet hedge, and, except in severe winters, the first flowers appeared invariably as early as the middle of January. Though grown in the unfavourable London climate, these beds were the best I have seen under culture.

The first time I got acquainted with the beautiful *L. carpaticum* (*L. Wagneri* Stapf.) was in the spring of 1877, when I saw a fairly large forest on the slope of a hill in Transylvania literally carpeted with this species in bloom. Not far away the pretty large blue-flowering *Hepatica angulosa* luxuriated. Both were at that time but little known in England, and a few years later Mr. Ware acquired large stocks of both plants.

The second group of *Leucojum* is quite distinct in every respect from the former. The bulbs resemble more those of the *Narcissus*, with a black or brown tunic and a peculiar large base, and bright green leaves 1 foot to 2 feet long and one-half to one-third of an inch broad. The flowers are several on a long peduncle, umbellate, bell-shaped, white tipped green, the individual flowers being much smaller, as in both the former. *L. aestivum* is the dwarfer and sturdier species, with larger but fewer flowers, while *L. pulchellum* (syn. *Hernandezii*) is taller and more robust in growth, and bearing a larger quantity of smaller flowers. Their usual time of flowering is in May, but in the milder climate of Cornwall or Scilly they flower as early as March or April.

The third group, or *Acis*, are all small-flowering though very pretty species, but on account of their smallness not adapted for cut flowers, as in the former two groups. The bulbs of these are ovoid, black or white skinned, the foliage being either linear or filiform; the flowers are from two to several on a peduncle, and either pure white or rose coloured. The best known among these is *L. autumnale*. The pretty flowers are small but rather long, bell-shaped, pure white, with a pinkish ovary, from three to several flowered, and appear from September till November. *L. tingitanum* differs but little from the former, except that it flowers in February or March; it is much rarer than the former, and is, as far as I know, in the wild state very local, while *L. autumnale* is found everywhere in the Mediterranean district, from Spain to Palestine.

Closely allied to *L. tingitanum* is *L. trichophyllum*, also a spring-flowering plant with filiform leaves and white flowers. The form *grandiflorum* from the Portuguese coast, with larger flowers, has the bad habit of degenerating, imported bulbs usually flowering once, sometimes twice, and after that dwindling away. *L. roseum* is a tiny but pretty species. The bulbs are barely larger than a small Pea, with recumbent linear leaves about 2 inches long, the peduncle being about 1 inch to 2 inches long, one to three flowered (rarely more);

the flowers are bell-shaped and rose coloured; it blooms in September or October. A very rare form of these (I say rare because I do not believe I have seen it for over ten years) is *L. longifolium*, or better perhaps if it were called *L. roseum* var. *longifolium* differing from the former in the longer leaf, which is 6 inches to 9 inches long, longer necked bulb, and also longer rose-coloured flowers; it blooms in November and December. At the last meeting of the Royal Horticultural Society, on December 17, 1901, a gentleman was kind enough to show me a dried specimen of a *Leucojum*, which I felt sure I recognised as *L. roseum* *longifolium*, coming, I understood, from Asia Minor. Although our supply came from Sardinia, there are doubtless other localities where this rare plant may be found growing.

The solitary species of the fourth group—*Rumina*. Although I have often grown a plant under the name of *L. hyemale*, it has always turned out one of the former of the *Acis*, usually *L. autumnale*, and the plant is only known to me from botanical specimen and a figure in "The Flora of Mentone"—by Moggridge, I believe.—G. REUTHE.

RUDBECKIAS.

THESE North American plants are very showy in autumn, and form pleasing contrasts to other hardy flowering plants in beds and borders from July to October and even later in mild seasons. *R. speciosa* (syn. *Newmani*) is the best species of all; the flowers are bright yellow with very dark maroon centres, showing up conspicuously late in summer. Other kinds worthy of a place where room can be found for them are *R. laciniata*, *R. purpurea*, and *R. subtomentosa*. *Rudbeckias* are compact, and the flower-stems are thrown erect well above the dark green leafage. They are not fastidious as to soil, any fairly good garden soil appearing to grow the plants well. Increase is readily effected by dividing the root-stocks soon after flowering is past, or, indeed, any time during the resting period. All the species above mentioned are perennials, but an annual well worthy of a place in borders is *R. bicolor*. This rarely exceeds 1 foot in height, and the individual flowers resemble those of *R. speciosa*.—H. T. MARTIN, *Stoneleigh*.

ANEMONE JAPONICA QUEEN CHARLOTTE.

THIS new form of an old garden favourite gives promise of proving the best of its kind yet raised; certainly it is the most vigorous and hardy. The leafage is unusually broad and robust, and of a rich green colour; it is a plant that has come to stay. The flower-stems are twice the usual thickness and are much branched, bearing flowers which average 3 inches to 4 inches across, the broad overlapping petals of which are arranged in two rows and are deep pink. The inner row of petals are slightly crimped on the margins, giving the flower a full, semi-double appearance. The flowers have somewhat the characteristics of the var. *Mont Rose*, but they are not so double. The colour of *Queen Charlotte*, however, is richer, and the plant is a veritable giant compared with *Mont Rose*. Two year old plants form a tuft 2½ feet high and nearly 2 feet through, bearing scores of perfectly-shaped flowers throughout late autumn and until frosts cut the plants down. It excels all other *Anemones* of the *japonica* group in freedom and value as a border plant. A white form of this would be invaluable.—Geo. E. MALLETT.

TEUCRIUM PYRENAICUM.

THE lover of alpine is not necessarily wedded to brilliant colouring, so that he can generally find room in his garden for such an unassuming little plant as *Teucrium pyrenaicum*, whose creamy white and purple flowers are attractive to the close observer. The whole plant, indeed, is unobtrusive in the extreme, seeing that it often grows only about a couple of inches high, and seldom attains the extreme limit of 7 inches given to it



CHRYSANTEMUMS IN THE ROYAL GARDENS, WINDSOR.

by some writers. It is just such a plant as we prize because of its low, carpeting growth. This Pyrenean Germander is, of course a labiate flower, and possesses the characteristic form of the family. It is as a carpeting plant for the decoration of some rocky crevice that it is most useful, but it seems to object to much winter moisture, and is also one of which slugs seem inordinately fond. Time after time have I lost plants from the latter cause, despite all the care I gave in the way of searching for these enemies. Nothing but a zinc ring seems to be effectual in keeping away these pests. I have never seen seeds on my flowers. It is also increased by division or by cuttings. I have seen it do well on a somewhat stiffer soil than the sandy peat sometimes recommended.—S. ARNOTT, *Carsethorn, by Dumfries, N.B.*

MARGYRICARPUS SETOSUS.

BERRY-BEARING plants are always welcome in the garden, especially when they are neat and pretty like the Peruvian *Margyricarpus setosus*, so well named the Pearl Berry. Its berries are truly pearl-like in their colour, though of a size rare among these gems. They are produced pretty freely in summer and autumn after the inconspicuous flowers. But the berries are not the sole attractions of the *Margyricarpus*, for its foliage which is narrow and sharply pointed, as may be conceived from the specific name, is of a beautiful shining green. The Pearl Berry is a charming thing for the shady side of a bog or the north side of a rockery, especially where it can trail over some dark stone, to which its green foliage and white berries make a pleasing contrast. It grows well in loam, leaf-soil, and sand, and is propagated by seeds. Although hardly enough for the most of our winters, it dies off in unusually severe ones, but is so readily raised from the berries that its loss is of less consequence.—S. ARNOTT, *Carsethorn, by Dumfries, N.B.*

TWO GOOD ASTERS.

It is very gratifying to note with what keen interest owners of gardens and their gardeners are taking up the cultivation of the perennial Asters. A fairly representative collection only needs to be once seen when in flower to warrant the observer in setting about forming a collection

himself. Many notes have appeared recently in THE GARDEN about these beautiful autumn flowers, and it is not my intention to dwell upon the merits of them as garden plants generally, as this is well known, but to briefly note two excellent sorts, they are *A. acris* and *A. Tradescantii*. The first named is the earliest to flower in my collection and the latter is the last; indeed, so late is *Tradescantii* in showing its pretty small white flowers that the weather if severe early in winter so damages them as to render them useless. This is my experience of the variety in these gardens in the open. *A. Tradescantii* is best adapted for pots in the conservatory in early winter. They may be treated similarly to the early-flowering Chrysanthemums, viz., struck from cuttings in spring, three in a small 3-inch pot, then potted on as required until finally they occupy 8½-inch, in which they may be allowed to bloom. Copious supplies of water are, of course, essential during active growth, and it is good practice to plunge the pots in an open situation out of doors as soon as the plants receive their final shift. Well grown plants in flower are well adapted for arranging with other flowering plants, such as Chrysanthemums, as well as for cutting for arranging in vases in rooms. *A. acris* is one of the most compact Asters. The flowers are of a pretty star-like form and blue.—H. T. MARTIN, *Stoneleigh.*

TROPEOLUM SPECIOSUM.

I WAS pleased to read the interesting article by Margaret Rich, on page 362, and all lovers of hardy flowers, and more especially those interested in the culture of this, the finest hardy twining plant, should read it with pleasure and profit. Nothing can be more beautiful than a mass of this when in full bloom. So fine is it that wherever it is known to thrive well in the South, many will ask to see it. Those who have failed with it should read carefully the instructions given on page 362, and try again. In our garden this *Tropeolum* thrives most satisfactorily, and I am induced to give my experience for the guidance of others. It would be most helpful if others would give their experience, too, confining themselves to their own observations. The gardens here are close to the River Axe, which often overflows, but notwithstanding we have been most successful with this *Tropeolum*; in fact, I have never seen it thrive

better, and this is the opinion of many who have seen it doing so well in Scotland. Some sixteen years ago one strong plant from a pot, obtained from a Scotch nursery, was planted at the foot of a north wall, the border being raised about a foot, and soil placed on hard ground to make it. The soil is sandy loam, and at the time of planting a Pear tree was planted beside the *Tropeolum* as a support. In this position it soon attained a good height, the tree growing fast also, and in about six years it had reached to the top of a 14 feet wall. It spread rapidly on all sides, soon covering a space of 20 feet, and intertwined itself amongst the branches and roots of a Victoria Plum. For years we allowed these trees to go unpruned, and the strong shoots of the *Tropeolum*, many feet long, hanging from shoot to shoot, made a charming picture. I observed for years that the shoots did not die down to the ground, only part of the way, and they broke into new growth from that point. The border is never dug or hoed. So rapidly did the roots spread that at the end of the wall—some 24 feet—was a corner we used for rotting leaf soil; here they found a home, growing and pushing up strong shoots, 12 feet to 15 feet long, and hanging on to rough branches close by. This corner was sunless and very cold and damp. From this position I have often taken up strong roots in winter and given them to ladies visiting here, and every year potted up roots into pots to

make welcome presents of, so many people wishing to try to grow it. From this I am convinced that it is more a question of shade and moisture than the character of the soil it grows in. We tried growing it on a west border, within twenty yards, planting and treating it in the same way, but it refused to grow. This arose from having too much light and insufficient moisture. I tried it in several other positions without success, but it will grow well enough on the other side of the garden on a north aspect. Like your correspondent, we find the birds carry the seeds about, and young plants establish themselves. So fine did this grow for years that I often used the long strings of the shoots for laying on the dinner table and hanging from the lamps, &c., on the table, a use they are most valuable for in autumn in country houses for shooting parties, &c. Some four years ago I was obliged to take up a portion of the border, owing to the common Bindweed getting amongst the roots. When lifted we put new soil to plant it in, using every effort to keep the roots unbroken, returning all the straightest, and in spite of all this they have yet refused to grow satisfactorily, showing how much they resent disturbance. I doubt if a high position has anything to do with the success of *T. speciosum*, although I know some things thrive on the high positions, and die close by the abbey. Many times I have tried to raise plants from seed taken from these plants, but have never succeeded, although I have tried them under glass and otherwise.—JOHN CROOK, *Forde Abbey Gardens, Chard.*

CHRYSANTEMUMS IN THE ROYAL GARDENS, WINDSOR.

No flowers are so much appreciated as flowers in season. Despite the beauty and brilliant colouring of forced blooms, such as are plentiful enough in the spring of the year, these do not possess half the charm of the hardy ones, then struggling bravely against the bitter winds and cold weather. So it is in the autumn and early winter when the Chrysanthemum is essentially the seasonable flower. By reason of the great improvements in, and addition to the list of varieties during the past few years, the season of the Chrysanthemum has been



PATIO AT THE CONVENT, GIBRALTAR.

greatly extended, and with great advantage to flower lovers, for no period of the year does less credit to the gardener than that immediately preceding Christmas. Such a collection of Chrysanthemums as we have the pleasure of portraying in the accompanying illustration consists, as may be seen, of a great variety of forms of the queen of autumn flowers, a variety that is quite essential in the Royal Gardens, where the demand for flowers is at times altogether exceptional. The picture also conveys a good idea of how a house filled with Chrysanthemums should be arranged, for perhaps with no other plant in flower can an arrangement be so easily made stiff, formal, and unpleasing as with the Chrysanthemum. The display here figured gives one the impression of having been set up, informally yet carefully, and the judicious insertion of a suitable number of smaller flowering kinds has helped considerably to achieve this object. T.

PATIO AT THE CONVENT, GIBRALTAR.

CONSIDERING the great advantages afforded for the culture of flowering plants in Spain it cannot be said that the inhabitants of that country make the most of their opportunities in the matter of flower gardens. Cottage gardens such as are to be met with on all sides in England, bright with a charming variety of old-fashioned and for the most part sweet-scented blossoms, are practically unknown, while even public gardens, on which considerable time and labour are expended, fall far short of their possibilities of artistic expression. It must not, however, be hastily concluded that because the flower garden as we know it is held but in scant esteem flowers are not appreciated, for this is far from being the case, the Spaniards loving to brighten their dwellings with flowering plants, and the traveller in passing through small towns often views with pleasurable surprise the tones of living colour that enliven the grey walls. Here a vivid Carnation, a sheet of bloom, hangs from a narrow balcony, here a Cactus glories in its blaze of scarlet, here a whole house wall glows

with the richly tinted flower trails of the Bougainvillea, while on passing the doorways which give access to the patios, or open spaces round which the houses are built, a glimpse of white Arum Lilies, rosy Oleanders, Strelitzias, and other handsome flowering plants is almost invariably afforded. Where the English have been in residence for any length of time gardens are naturally to be found around the houses, as at Gibraltar, where such possibilities of floral culture as exist have been made the most of. The gardens of the old Franciscan Monastery, now used as Government House at Gibraltar, and styled the Convent, are filled with hosts of lovely flowers, and the spacious central patio here illustrated, a cool retreat half in shade and half in sunshine, is beautified by foliage and flowering plants, the tints of the latter ranging from the intense scarlet of Pelargoniums to the ivory white of the Arums' spathes, while above the pillars of the wide surrounding arcade graceful creepers twine in tender contrast to the grim frescoes in black and white depicting the memorable siege of Gibraltar, which adorn the walls and to the colossal figure carved out of the bowsprit of a captured Spanish man-of-war which stands in one of the entrances. S. W. F.

PREPARING SOILS.

WE find in different countries and in parts of one country that soils differ so materially that it is necessary to classify them as follows: (1) Alluvial soils, (2) clay soils, (3) clay loams, (4) loams, (5) peaty soils, (6) sandy soils, (7) sandy loams. Having one or the other of these soils to grow garden produce in it is necessary to consider their chemical and mechanical conditions before cropping. If the soil is wet, and lacking some or all of the necessary constituents, the results from it will be very unfavourable. When preparing the soil, draining is the foundation of all success, especially if the subsoil is of a wet and stiff nature. Few operations carried out by a gardener exercise a more decided influence upon all branches of his work than the drainage of the land. When an excess of water is kept in the soil the land becomes sour, and acrid acids form which render the soil unfit for plant life, labour is made more difficult, and the growth of the crops, hardy fruit trees, &c.

is greatly reduced. Drainage dries the ground, and immediately air is drawn into the soil to take the place of stagnant water.

We will now consider the different soils. Alluvial soil is a combination of all soils, which we find in our valleys and glens, and is reckoned to be one of the best, as the subsoil is of a porous nature, of much the same material as the surface, and under ordinary cultivation it will produce good results.

Clay soil contains 20 per cent. of sand, and is therefore very stiff and hard to labour: but when on a good porous subsoil and properly cultivated will yield a good return.

Clay loams are made up of 20 per cent. to 40 per cent. of sand, and consequently are more pliable than the forms of stiff clay, and require less labour. Loams are intermediate, and contain 40 per cent. to 60 per cent. of sand. They are rich in organic matter, which renders them more fertile from a less amount of labour than the stiff clays.

Peaty soils consist of vegetable matter which has grown and decayed, generally in the places where these are found. They differ materially from our other soils which have been produced by the pulverisation of rocks by the action of the air, frost, and water through the ages of time, assisted only by the decay of the smaller forms of vegetation, this

adding organic matter. Peaty soils contain nearly 97 per cent. of vegetable matter, while the amount of mineral matter is very small. We find other soils to be chiefly composed of mineral matter, but in well cultivated soil we find a larger amount.

Sandy soil contains 80 per cent. to 100 per cent. of sand, which makes it very imperfect for retaining plant food, while a sandy loam is made up of 60 per cent. to 80 per cent. of sand, and is also weak in its retentive powers.

Having named the different soils, we will now consider the best methods of preparing and manuring them. A stiff clay is greatly improved by being turned up in the autumn as early as circumstances may permit, so that the surfaces of the soil may be acted upon by the air, rain, and frost. Ridging is the best method for improving stiff clays. A certain number of plots require to be ridged in every garden yearly where the earth is of a stiff nature, taking them in rotation to ensure a thorough loosening of the soil throughout the garden. The plot to be ridged should get a heavy coating of fresh farmyard manure to keep the stiff clay open. Road scrapings and partly-decayed leaves or any other half-decayed material from the rubbish heap will all help in varying quantity according to the operator's judgment; these are scattered evenly over the ground.

Ridging is digging the soil into parallel ridges 21 inches broad. Measure off the plot of ground with pegs at both ends. Lay the line and cut with the spade along both sides of the first ridge. Dig out the first ridge and wheel the soil to the opposite side of the plot for filling in or making the last ridge. Lay the line to the pegs, indicating the second ridge along the line with the spade, so that the second ridge may easily be turned over to take the place of the first. Take the top spit and turn it over into the place left vacant by the first, mixing the soil and manure well together. Having completed the first spit the second is dug over on to the first in the form of a sharp pointed ridge. It is essential to lay up every spit carefully so that the agencies of the atmosphere may act fully on the surfaces of the soil. The remaining ridges are done in the same way till the plot is complete.

The depth of the ridge greatly depends on the nature of the subsoil. Should the subsoil be of a poor and stiff nature, which is often the case under clay, the subsoil should be stirred (if circumstances allow the addition of manure so much the better) and not brought to the surface in great quantities, as it often contains harsh and acrid matter which would be injurious to the crops. About 2 inches

of new soil brought up to the surface in one year is safe; this, when acted upon by the agencies already mentioned, will yield fresh mineral matter to our crops. Owing to the closeness and firmness of clay soils they may safely be given manure a long time before cropping, as there is little danger of much of the soluble constituents of the manure escaping. Light soils being porous have little power of retaining soluble matter for any length of time, especially in wet climates such as we experience in County Waterford. Light soils should be prepared immediately before cropping. Cow manure is the best for light or sandy land, dug in one spit deep. Cow manure has a tendency towards making sandy soils firm, and helps them to retain moisture in dry weather. The texture of light soils is also greatly improved by applying marl and small stones to the ground.

Loams are good retainers of plant food, and may with safety be prepared in autumn. Ridging is a good method of preparing loams as well as stiff clays and clay loams, for not only do we derive the benefits already mentioned, but the ridged ground is much dryer in the spring than ordinary flat dug land, enabling us to crop much earlier. Ridging does not apply to wall borders or such like places where fruit trees are grown; here the ordinary method may be practised. In large gardens such as we have here there is a 4 feet way along the wall and a 12 feet border for cropping. Established trees on the walls extend their roots well into the border, while the younger tree roots do not extend so far. Great care should be exercised when preparing wall borders so as not to injure the fibrous roots of the wall trees.

Experiment has taught us that lime is necessary for the development of all plants. It is, therefore, valuable as a manure, while its chemical and mechanical effects upon the soil enhance its value. Lime may be employed to soils deficient in it, stiff clays, peaty land or soils rich in organic matter. Great care should be taken not to apply lime to poor soils or those weak in organic matter, because the lime uses up a certain amount of the latter, which would therefore become exhausted unless a fresh supply was added in the way of farmyard manure. Lime and manure should be added to the soil at different times, because if both were used at once the lime would cause the ammonia of the manure to escape, thus creating a great loss, as ammonia is a most valuable constituent of manure. To avoid this danger, the lime may be applied to the surface some weeks after the ground is prepared, or as circumstances may permit, although the spring is a good time when weather is favourable, and the natural agencies have acted on the prepared ground. Newly-slaked lime is the best for stiff clays, and should be slightly forked or worked into the surface immediately after its application to the ground, for if left exposed to the air the carbonic acid gas of the atmosphere will unite with the lime, thus making it less active and reducing its power of liberating dormant plant food. Lime has a tendency to work downwards, and therefore should never be dug or trenched into the land. Caustic or newly-slaked lime may be applied to alluvial and loamy soils with good effect, though when used in the milder form of marl it is better for sandy soils.

Earth worms are great helpers in the production and improvement of the mould. An immense quantity of earth passes through their bodies in the processes of feeding and

burrowing; this forms the best of soil. The dry castings of worms have been estimated to amount to several tons per acre. Their burrows go a great depth into the earth, thus making a free passage for roots, air, and rain. Stones are useful. In many gardens it is customary to remove all small stones off the ground: my experience leads me to believe that stones are useful in soils, because, firstly, they strengthen it or give it a greater body; secondly, they regulate the supply of moisture; porous stones yield moisture in dry weather, and help to retain moisture; thirdly, they improve the texture, keep stiff soils loose, and make sandy soils firm; and, fourthly, they yield plant food when acted upon by roots and natural agencies. When preparing the ground for fine seeds the stones must be raked off to get the ground fine and level, but instead of wheeling them outside the garden, they should be scattered over the ground that will presently be cropped with Cabbage, Potatoes, &c. When forking the ground the stones may be worked into it.

(GEO. MACDONALD.)
Dromana Gardens, County Waterford.

DRYMOGLOSSUM CARNOSUM.

THE accompanying illustration is that of *Stillingia sebifera* covered with the little Fern *Drymoglossum carnosum*. This Fern is often found growing on trees in a manner similar to that shown in the photograph. The *Stillingia* is a deciduous tree, and advantage was taken of this in order to show as much of the *Drymoglossum* as possible. The Fern at the base of the tree is *Polypodium conjugatum*.

(W. J. TUTCHER.)

Botanic Gardens, Hong Kong.



STILLINGIA SEBIFERA WITH DRYMOGLOSSUM CARNOSUM ON THE STEMS.

DAFFODILS IN NEW ZEALAND.

THE great interest taken in Daffodils in the Colonies is shown by this letter, from Mr. Wilson, M.A., a resident of Dunedin. This accomplished amateur had already been for many years a grower of good Daffodils, while the recent visit and advice of Mr. Peter Barr will no doubt have done much to spread a knowledge of their beauties and to increase their popularity.

Mr. Wilson says: "Speaking for myself, I do not find it an unmixed good that the Daffodil has become the flower of fashion, though no doubt this is good for trade. As soon as a flower gets to be a subject of competition it becomes vulgarised, so that I find myself sometimes thinking regretfully of the time when the Daffodil was not such a favourite as it is now, when I was myself the only grower within a respectable radius of my own garden, and was thought to possess an extensive collection because I could muster between thirty and forty varieties. Time is on the wing, as I am reminded by coming across an old account for Daffodil bulbs from Barr and Sons, of Covent Garden, or, rather, Barr and Sugden, as the firm was then, the said bill dating some eighteen years back. The list includes thirty-one varieties, and is in the handwriting of Mr. Peter Barr, who has done more than any man living perhaps to popularise the Daffodil. It is interesting and amusing to go through the list. In no case is the order for more than one bulb of each variety. The list includes such kinds as *Cernuus*, *Empress*, *Albicans*, *Maximus*, *Poeticus recurvus*, *Poeticus* of Haworth, *Poeticus poetarum*, and *Leedsii amabilis*. Some of these single bulbs have peopled my own

and other gardens with a numerous progeny. *Empress*, once solitary in her state, and regarded as something rare and imperial, has grown to a multitude of *Empresses*, whilst *Poeticus recurvus* is now but a beautiful weed. *Poeticus poetarum*, on the other hand, of which I got one bulb at the same time, is little more than a single bulb still. Each season as it shows its wan face and brilliant hectic eye I think that season is going to be its last; but if it does not thrive it continues at least to live. The whole consignment of thirty-one varieties, including packing and postage, amounted to the modest total of £1, a sum which a Daffodil syndicate would probably consider a moderate price for a single bulb. *Emperor*, strange to say, is not on the list, so that I am unable to say whence comes my stock of that variety.

"The Daffodil, I fear, is fast becoming a florist's flower, which means that it is on the way to being judged by arbitrary and exacting standards, a thing that is pretty sure to happen when a flower is largely hybridised. The hybridiser sets himself certain things to strive for—size, strength of constitution, depth and purity of colour, proportion of the relative parts, and so on, and any flowers that do not reach the required standard are thrown to the rubbish heap. The time will come, and is probably not far away, when the natural forms of the flower, as it is found on the mountain slopes of France and Spain, will be entirely superseded by finer forms, produced by artificial cross-fertilisation. Yet for the possessors of certain gardens the natural species of plants have a charm of their own, though they may be distanced in splendour by

the florist's artificial varieties. The small and fugacious single Rose of the Pyrenees, for instance, appeals to some more strongly than the flower that is regarded as the supreme triumph of the Rose grower, the splendid *Maréchal Niel*. Again, as to the *Crocus*, though I much affect the whole *Crocus* tribe, a minute species from the mountains of Greece or Asia Minor has for me a greater value than the largest and finest variety produced by the Dutch florist. This partiality for species is probably the instinct of the botanist—or botanist *manqué*—triumphing over that of the gardener: partly that, and partly also that one has schooled one's self to such a faith in Nature as to believe that whatever Nature does is done in the best possible way. There can be no doubt, however, that Nature, if sure and faultless in the long run, is slow in her processes. She trusts too much to chance. Man, being the impatient creature he is, and not altogether unintelligent, hurries the old mother up, and expedites her processes. Perhaps no better instance could be cited of the results of man's interference with the processes of Nature than the evolution of the Pansy. Less than a century ago the Pansy, as we know it, did not exist. No doubt there was a stereotyped weed, "freaked with jet," that did duty as a Pansy in the time of Shakespeare and of Milton, but no more like the splendid flowers of to-day than a hedge Crab is like a Ribston Pippin. One has only to take up an old illustrated book of gardening, say, of the thirties, to see that the most prized Pansies of that time, though a great advance on the *Viola tricolor*, would now be regarded as beneath contempt. So it will be some day with the Daffodil. Thus far, a Daffodil is a Daffodil; presently no flower will be worthy of the name that cannot meet the exacting conditions of the florist.

"I do not profess to speak of plants with any but the most superficial knowledge of their botany, but no one can have much to do with the *Narcissus* without becoming interested in its plan of structure, if for no other reason, because it is in certain respects perplexing. Plants grouped under one order ought to have a common scheme of construction: yet what other *Amaryllid* genus presents homologues to certain salient parts of the *Narcissus*. Style, stamens, and all that apparatus of reproduction are, I dare say, simple enough, but I should be glad if some botanist would give an intelligible explanation of the mutual relation of the parts known to the growers as crown and perianth. The main part of every *Narcissus* flower is an elongated tube, more or less funnel-shaped—that is, expanded towards the mouth. The object of this tube is apparent enough—it is the sheath to protect the delicate reproductive organs within. But from this ornamental tube, sometimes at its mouth, as in *N. poeticus*, sometimes half-way up its length, as in *N. Pseudonarcissus*, there projects a founce of ornamental scollops, six in number, which founce growers call the perianth, a term that explains its position but not its purpose. These scollops are not in any way articulated to the tube: they grow out of it and form part of it. What one would like the botanist to explain is the function of the founce. What purpose does it serve in the economy of the plant, and what is its homologue in other *Amaryllids*?"

"As to the species of *Narcissi*, he would be a rash botanist who would venture to affirm what and how many they are. If any species is determined 'by the greater stability of its characters, and the absence of individuals intermediate between the related groups'—that is, if it is held that two plants of a genus should be considered species, which will cross and produce forms intermediate between the other two, then there are very few species of *Narcissi*: half-a-dozen at the outside, if, indeed, the genus does not consist of a single species. To the mere grower, however, this is a matter of little importance, inasmuch as he has a handy, if inaccurate, classification, depending on the relative prominence and development of the crown and perianth.

"Natural species are not attractive to the

ordinary gardener; they are not showy enough, and they do not present double forms, for which the gardener pines and simple has an affection. The so-called species of *Narcissi* will, therefore, have the necessary room and attention given them only in the garden of the horticulturist, who is compounded in equal parts of botanist, gardener, and collector—not much, perhaps, of any one of the three, but a little of all. Thus, I find myself treasuring a Daffodil called *Narcissus Pseudonarcissus*, and taking some trouble to make it grow: but if I were asked why I value it, I should find it difficult to give any better reason than that it is reputed a species indigenous to England, is not easy to grow, and is called the Lent Lily, a pretty sentimental name with a sub-ecclesiastical flavour. I am obliged to confess that as a flower the Lent Lily is a failure. I have myself produced from seed much better things even in its own style, and I have no hesitation in saying that if Nature had kept pace with the modern spirit of progress she would long ere this have swept the Lent Lily into her limbo of apprentice efforts.

"Though Nature is not rapidly progressive herself, it is astonishing how submissive the old grandmother is to those of her progeny who would teach her to suck eggs. Some six or seven years ago I ventured myself, with some diffidence, to suggest an improvement in her way of reproducing Daffodils. I proposed that instead of trusting to the uncertain agency of stray breezes and humble bees she should allow me to ensure the necessary combinations with a camel's hair brush. The mode of operation is simplicity itself. You decide that the virtues of one Daffodil might be advantageously combined with those of another to produce a *tertium quid* that shall be different from either, and possibly possess the virtues of both. Take, as an extreme instance, the two Daffodils called *Emperor* and *Cyclamineus*. The first is a large, bold, stately flower; the other is a quaint miniature form, with its segments reflexed like the petals of a *Cyclamen*. You transfer the pollen of the one Daffodil to the stigma of the other, and if good seed results the offspring will probably be a combination of the two forms—a smaller *Emperor* with reflexed petals and a larger *Cyclamineus*, with segments less recurved: something, perhaps, in the way of *Queen of Spain*. Or if you should think that *Emperor*, fine flower as it is, is a little washed out in the colour of its segments, which is my own doubtful criticism of this beautiful flower, you may hope by crossing it with *maximus* to get a flower with the fine form of the one Daffodil and the rich colour of the other.

"Those who have much experience with the Daffodil will probably have observed that the natural forms—that is, those collected in their natural habitat—are, generally speaking, more difficult to manage than varieties artificially produced by gardeners, or if not actually difficult to grow, yet are not readily increased by offsets of the bulbs, which means that with these wildlings of Nature you must take Nature's methods. She cannot go, spade in hand, over her mountain sides and meadows, digging up her bulbs and dibbling them out for increase. Her way is by seeding. To make sure that one seed will grow she sows a hundred, and whoever would grow these interesting wild forms must follow her example, with the certain hope, however, of getting a much larger return than Nature's one per cent. The *per contra* of all this is that many of the artificial blends produced by the gardener do not seed at all. Some produce seed in fair abundance, but some, at least in my experience, absolutely decline to form seed, the seed organs in these being probably in some fatal way defective.

"Another consideration that enters largely into hybridising is the matter of constitution. Many Daffodils, as every grower knows, though beautiful and desirable forms in themselves, are so weak in constitution that they die away in course of time, or perhaps contrive merely to exist, without increasing. Now by seeding varieties of this kind there is every hope of raising varieties possessing all the attractions of the parent, with a robust constitution into the bargain, and this

becomes more likely if the variety in question is cross-fertilised with pollen from one stronger than itself. As an instance of what may be done in this way I might mention the beautiful Daffodil known as *Pallidus præcox*. Everyone would gladly possess an abundance of such a flower as this. English growers find it a difficult subject, and to supply the annual demand dealers have to obtain supplies each season from Spain, which probably means that within a measurable space of time the plant will be extinct. My own experience of this Daffodil is that it will live and bloom from year to year, but will give no bulb increase. It is satisfactory, therefore, to find among my seedlings several Daffodils of this variety, replicas of the parent in all their features except that they are even prettier and apparently more robust. It may be that the Daffodil of the future will eclipse in splendour the Daffodil of the present, though it requires a little imagination to conceive how some of our present flowers could be bettered. I have not imagination enough to picture anything more charming in its quaint, high-shouldered fashion than *Colleen Bawn*, sturdier and bolder than *Sir Watkin*, more imperial than *Emperor* and *Empress*, or neater and sweeter than the *Jonquil*, *N. minimus*, *N. nanus*, *N. triandrus*, and the *N. moschatus* of Haworth, which, unfortunately, I cannot grow.

"I find that in some eyes it is a virtue in a flower that it should be scarce, and, if possible, dear. When *Sir Watkin* made its first appearance in public, emerging suddenly from the privacy of some Welsh garden, where it had probably wasted its sweetness unregarded for countless generations, it was thought to be a miracle of beauty, and as long as it was scarce and dear it maintained its reputation; but now that it is cheap and plentiful you are told at flower shows that it is coarse, and are bidden withdraw your eyes from *Sir Watkin* to contemplate the charms of *Mme. Plomp*. When I saw the last-named flower for the first time a year or two ago in Barr's collection at Long Ditton I thought it a very fine Daffodil, being, I fear, too much impressed by its mere size. After growing *Mme. Plomp* for myself I have come near to thinking the Dutchwoman positively plain. I presume she is Dutch from her name. At any rate she has the Dutch virtues—vigour, boldness, and a certain generous amplitude and rotundity of build, but it is a coarse kind of comeliness, something of the Flemish quality that Henry found in Anne of Cleves. Except as having an eye to a commercial transaction with a Daffodil syndicate, I would not give *Sir Watkin* or *Horsfieldi* for a wilderness of *Plumps*. Yet let it not be forgotten that a Daffodil may be beautiful, even though it is dear. As prices go, *Victoria* is dear (though not a quarter the price of the nogainly *Plomp*), but it is a queenly flower, well worth a crown, and worthy of the lady after whom it is named.

"Of the *Narcissus* now in the garden I could mention a good dozen which are as cheap as Onions, yet which I defy custom to stale or age to wither—*Emperor*, *Empress*, *Grandis*, *Maximus*, *Henry Irving*, *Minimus*, *Nanus*, *Cernuus*, *Colleen Bawn*, *Minnie Hume*, *Sir Watkin*, *Barri conspicuus*, *Queen of Spain*, the *Jonquil*, and others. For what will happen when time tries to improve these exquisite flowers? *Maximus*, for instance, leaves little room for improvement. Anyone who thinks it requires improving cannot have seen the flower at its best. I am told by some growers that this flower is capricious—a serious fault of course. But when *Maximus* seems capricious either it is no true *Maximus* (there is, in fact, a spurious *Richard* in the field) or all is not well with the commissariat, for this Daffodil likes a generous regimen, and is in every way entitled to it. *M. J. Berkeley* is thought by some to be an improvement on *Maximus*. Mr. Titheradge, the distinguished actor, and an enthusiastic Daffodil grower, sent me bulbs of this Daffodil a few years ago thinking it better than *Maximus*. So think not I. Apart from its inferiority in colour, the larger trumpet in *Berkeley* is quite out of proportion to the perianth. Again, how may *Empress* be improved? *Mme. Plomp* is larger and fifty times as dear, but that does not make this

Daffodil a finer flower. To be sure an Empress with a perianth of lustrous white, flashing in points of light like hoar-frost, the white that is so beautiful a feature in all the Poeticus tribe, would be a desirable flower; or an Empress with an orange trumpet, or a trumpet edged with orange. I do not know whether these combinations really lie within the nature of things, but even if we possessed these forms they would not make the present flower in any way less desirable. Again, how are the various Spanish sulphur Daffodils—Cernuus, Moschatus, and others of that tribe—to be superseded? We have some charming varieties of these, but if you change to any great degree the size, colour, texture, and proportion, though you may get something that is well worth having, what you get will be no substitute for the original flowers.

"It will be noted that I have put no Poeticus Narcissi among the unsupersedable. The fact is that I have seen the Rev. G. H. Engleheart's seedlings, and I rather think that he is on the way to making all our present Poeticus forms (except, perhaps, the double) unnecessary. One April morning a few years ago I strolled into the Drill Hall, Westminster, as various exhibitors—Barr, Ware, and others—were *stacking* (that is the only word that can give an idea of the quantities) their exhibits of Daffodils. In my walk round the hall I saw little that we could not grow just as well here, or better, till I came to a stand where a person was arranging flowers that made me pause and revise my previous notions of Daffodils. The varieties on the stand may have numbered some score or so, but all were new, distinct and lovely flowers. I cannot pretend to remember otherwise than indistinctly Mr. Engleheart's new Daffodils and their names. His collection is in my mind now a confusion of splendour. There was a white Sir Watkin, called, I think, White Queen; Southern Star, with a heart as red as Mars; Torch, also orange-centred, a loose flower in the way of Frank Miles: Flamingo and Oriflamme, flamboyant both; a fine trumpet Daffodil in the style of Maximus, and called The Cid; and two large Poeticus varieties, exquisite in shape and texture, named, if I remember, Homer and Sir Walter Scott. My impression is that the trumpet Daffodils were less fully represented in Mr. Engleheart's collection than the other sections. Some day no doubt these fine Daffodils will be distributed, and there will be a flutter among connoisseurs. A friend, who is an excellent judge of the flower, informs me that he saw some of the Engleheart seedlings on exhibition last spring at Christchurch, and that he found them poor and disappointing. I take leave to think that the flowers were not well grown, or that they were not genuine Engleheart seedlings."

THE ROSE GARDEN.

TEA AND NOISETTE ROSES FOR ARCHING.

ALTHOUGH the bending over of the long growths of some Roses is no new invention, one may visit many a garden and find no attempt at such an excellent method of treatment. In moving about the country useful hints are obtainable for those who care to search for them, and often in most unlooked-for places. In a cemetery recently I came across some good examples of what may be done in training the fine climbing Tea and Noisette Roses, which are so plentiful and which comprise so many most useful yellow kinds. Rêve d'Or was the variety most largely grown. We have been treating this Rose quite wrongly. It must not be cut away each season. Let it grow as wild as possible, merely reducing the number of its growths instead of their length, and then it will flower as freely as one could wish. In the cemetery I visited there was this fine old Rose bent over some of the graves as a handle over a basket, and each handle

had evidently borne numerous blossoms. Many complain that they have no wall space available when climbing Roses are mentioned to them. But one does not need walls. Give them a trial in the manner indicated, try some on trellises trained as one would an Apple or a Pear tree, and I can promise them a rich gathering of beautiful buds and blossoms, and of many of the valuable yellow kinds which these climbing Roses are very rich in.

PHILOMEL.

AUTUMN-FLOWERING HYBRID PERPETUALS.

EVEN the most enthusiastic advocate of decorative Roses will experience a thrill of pleasure at the sight of a really first-class flower which will now and then appear upon one of the few Hybrid Perpetuals that are good in autumn. How rich and glowing is

Louis Van Houtte in the beautiful September days. One could wish it were a better "doer," and no doubt it succeeds best, as does A. K. Williams, Xavier Olibo, Horace Vernet, and one or two others, when budded where they are to remain. Such a lovely Rose is worth any amount of trouble in order to make it a success. A pair of really excellent crimson autumnals are

Mme. Victor Verdier and *Ella Gordon*. The relationship of the latter to the former is evident by the growth, but *Ella Gordon* is by far the stronger, making splendid bushes well fitted for a pillar or the back row of a border.

Star of Waltham is another good late red Rose. Last season it was particularly handsome, the colour deepening as the autumn advances.

A. K. Williams is always good late in the season. I am inclined to think that this Rose is not nearly so poor a grower as some would have us believe. In a noted amateur's garden last year I was struck with its vigorous growth.

Lord Macaulay is a Rose much too good to be lost. If it were introduced now as a novelty great things would be said of it, both for its glowing crimson colour and regularly shaped flowers. This fine kind, together with Fisher Holmes and Duke of Connaught, with an outer row of Victor Hugo, would form a delightful quartette for a large-sized bed, and all would flower very satisfactorily in the autumn months.

Charles Lefebvre gave a few splendid flowers last autumn. To my mind there is no crimson Rose to equal it for beauty of form and colour.

Duke of Albany should be grown in every collection. I think its merits are scarcely recognised by the majority of Rose lovers, and

Comte Raimbault and *Lord Bacon* provide us with several very good flowers in September and October.

Alfred Colomb and *Ulrich Brunner* among the lighter reds are always good late in the year. We are promised a more brilliant flower of the latter in

Mme. Ernest Leravasseur, which we hope may be verified. The

Victor Verdier race are always certain autumnals, the type itself being one of the best. I could have cut a flower the second week in October equal to the blooms one obtains in summer. What we owe to this Rose for its glorious progeny, directly or indirectly, will probably never be known, and if their want of fragrance can be overlooked they must be placed in the front rank as autumnals.

Pride of Waltham, *Countess of Oxford*, *Mme. Bois*, *Marie Finger*, and others blossom most freely late in the year, and, as most growers are aware, the colour becomes very much intensified, so much so that one scarcely can recognise them. Among the lighter shades

Mrs. John Laing and *Mrs. Sharman-Crawford*



ROSE FELICITE PERPETUE.

are unsurpassed, the former proudly maintaining the premier position as the best autumnal Hybrid Perpetual.

Heinrich Schultheis, *Marquise de Castellane*, and *Paul Neyron* among rose-pinks come well to the front in their respective colours.

For thorough hardiness such Roses as I have named may be relied upon, and this is a weighty matter with those who dwell in cold districts, especially if one is desirous of growing some as standards, for no class of Rose can be more fitting than these for such a purpose.

PHILOMEL.

ROSE FELICITE PERPETUE.

Of all the beautiful rambler Roses that have appeared during the last few years it is questionable whether any variety has been raised to surpass the old and well-tried *Félicité*

Perpétue, which was introduced as far back as 1828. It is a worthy companion to Crimson Rambler, the grand trusses of pinkish white rosette-shaped blossoms toning down the somewhat garish effect of the popular rambler. Perhaps *Félicité Perpétue* is best seen as an arch Rose gracefully spanning some wide walk or drive, but it is also most attractive as a well-developed pillar, for it quickly rises to a height of 10 feet to 12 feet, and is then a glorious column of dazzling white blossom. This Rose is also excellent for covering mounds, banks, tree stumps, &c., and as it is possible to obtain it upon its own roots no one need hesitate to plant it where it will receive little or no attention. The small flowers so perfectly formed and produced in such fine corymbs last quite a long time before they fall. This is important when effect in the garden is considered. Perhaps some prefer the simple beauty of single Roses of the Carmine Pillar type. It is impossible to exaggerate the beauty of this Rose, but how forlorn is its appearance after a storm, whereas the double kinds quickly revive. *Félicité Perpétue* is only half an evergreen, and the name of the tribe from which it springs, namely, *R. sempervirens*, is somewhat a misnomer. It will, however, retain its glossy foliage well through the winter months, and is perhaps as much evergreen as any Rose, except the lovely Jersey Beauty and *Aimée Vibert*. Of course in southern counties *Rosa fortuneana*, *R. levigata*, and others are almost if not entirely evergreen. I think it is very probable that *Félicité Perpétue*, *Flora*, and a few other varieties of *R. sempervirens* and *R. arvensis*, together with varieties of *R. multiflora*, will be extensively grown as standards in the near future. We know they make glorious weeping Roses on tall stems, but why should they not be huddled upon ordinary standards, and thus be more in harmony with surrounding trees and shrubs? The very tall weepers are excellent for large grounds, but the villa garden is not quite the place for them. It is now almost generally known that to prune this Rose is to cut away the flowers, but the plants must be overhauled in September at latest, and dead or decrepit growths removed, spreading out the remainder as much as possible. During the winter and also in May and June the plants are much helped by good soakings of liquid manure. P.

GARDENING OF THE WEEK.

FRUIT GARDEN.

LATE PLANTING.

UNDER good management and favourable circumstances fruit tree planting will have been completed, but unavoidable conditions sometimes arise that late planting cannot be helped, and no opportunity should now be lost in completing this operation. On receiving trees from a distance steep their roots in water, and at once lay them in damp soil if the planting cannot be immediately attended to. In planting the chief points of importance are to remove the broken and otherwise damaged portions of roots by a clean upward cut, regularly spread them out in shallow holes so that the stems of the trees are covered the same depth as they were in the nursery lines, make the soil quite firm both beneath and above the roots, and place fine particles immediately around them. Complete the work by mulching with short litter and securely staking in necessary cases. In the case of planting against walls the stems of the trees should, in order to afford space for development,

be kept a few inches clear of them, and the branches only loosely secured until the soil has set. With respect to planting in grass orchards, a bare space several feet in diameter should be left around each tree.

PRUNING WALL TREES.

Pears upon walls are usually horizontally trained, and both summer and winter pruned. As we presume that the former was duly executed, the requisite work now will consist in cutting back late growths and manipulating crowded and strong overgrown spurs. A superabundance of spurs means an excessive profusion of foliage and unsatisfactory crops, while extra strong spurs produce gross, unfruitful wood. The remedy for the former defect is skillful thinning by cutting clean away the most unsatisfactory portions, and the latter evil is overcome by a combination of root pruning and the cutting out of the largest spurs. The time for root lifting and root pruning is in October. Although young trees may be safely attended to in favourable weather even later than the present time, neglected established ones would be better left over until next autumn. Espalier and cordon trees need similar treatment with respect to pruning as the above, and in each case extending shoots, in order to ensure the production of sufficient spurs, should be shortened to about two-thirds of their length.

Apricots are impatient of moisture, and damp sites should as far as practicable be avoided for their culture, and likewise, owing to their early season of flowering, those where severe spring frosts prevail. They are accommodating in so far as they blossom freely both upon spurs and young shoots. It is possible to secure the young growths closely to walls, and consequently the flowers are comparatively safe from frosts. It is advisable to train the principal branches sufficiently far apart for the fruitful wood to be properly trained between them. At the same time the chief branches may be kept well furnished with fruitful spurs. Owing to the ease with which defective branches (the Apricot is very prone to have some) can be replaced by young ones upon fan-shaped trees, it is desirable to train young trees upon that system.

PLUMS.

In training young trees care should be taken by autumn root lifting and stopping strong shoots during the growing season to equally balance the growth and thereby form symmetrical specimens. Where this has been attended to all that will now be required is to cut in late growths to within three eyes of the base, and shorten any leading shoot from which a supply of subsidiary branches is desired. Moderately-sized growths will furnish a regular and sufficient supply of spurs without being shortened. Established trees, with regard to pruning, should be treated in a similar way to Pears.

THOS. COOMBER.
The Hendre Gardens, Monmouth.

THE FLOWER GARDEN.

THE present is naturally a dull and uninteresting time of the year so far as the appearance of the flower garden itself is concerned, but yet much can be done by attention to neatness and order to make it inviting and cheerful even now. Where winter decoration of beds by the use of dwarf shrubs has been practised care should be taken to keep them clean and to remove any leaves or unsightly objects that may have been blown by the wind amongst them; while, if the weather is open, lawns and grass paths should be frequently brushed to remove worm-casts, and lightly rolled; this not only improves the turf but at the same time greatly enhances its appearance. If there are still beds and borders unprepared for the sowing of annuals, or the occupation of the summer bedding plants, the work should be got on with whenever the opportunity permits, not only to allow the ground to be influenced by the ameliorating effects of weather, but also to get it done before the stress of work commences which the approach of spring time entails. In cases where the beds and borders have been used for many years it is a wise pro-

ceeding to remove a little of the old soil and substitute fresh loam and well decayed manure to prepare them for the summer planting; for though there are some plants, such as *Convolvulus*, *Tagetes*, &c., that bloom more freely in an impoverished piece of ground, most flowering plants respond to a good rich soil.

HYACINTHS, TULIPS,

and other bulbs in beds if threatened with any severe weather may easily be protected with Ferns or ashes, while branches of Firs could be utilised for the safety of the more delicate roots.

ROSES

recently planted should, if not already done, be protected at the roots with long stable litter, and any which are yet to be planted should be got in the first favourable opportunity when the weather is mild. Every care must be taken to ensure their success; deep trenching, removing poor soil, and the addition of stiff loam and manure are of primary importance in connection with Rose planting.

HUGH A. PETTIGREW.
St. Fagans, Cardiff.

INDOOR GARDEN.

WATERING.

THIS is the most important operation in the cultivation of plants in pots. It requires much care and judgment. Every young gardener should know the needs of various plants under his care. Plants too wet or too dry at the roots never flourish. Water should never be applied to plants at fixed periods, but given when they are becoming dry. Those that are rooted and have good drainage should be soaked. Avoid giving water in dribblets, and the water should always be of the same temperature as the house, rain-water being the best that can be used for plants. Evergreen plants, such as Crotons, Azaleas, Carnations, &c., are often injured during the winter months through receiving insufficient water at the roots. Red spider and thrips more often infest plants through dryness at the roots than in the atmosphere. I believe red spider and thrip will not attack plants that receive sufficient water and are well nourished. Many complain of Crotons losing their leaves during the winter through insufficient heat, but I believe the cause is often through too much fire-heat, dryness, and starvation at the roots. It is best always, especially in winter, to maintain the lowest temperature that plants will thrive in. A Croton on the table before me while writing, Croton Disraeli, has been in the room since last June. It is standing in a window facing south. The leaves of the plant are hanging over the pot and are a good colour; in fact, the plant is making young leaves at the present time.

THE FORCING HOUSE.

In order to keep up the supply of flowering plants, Hyacinths, Tulips, Narcissi, and other bulbs, also Spireas, Deutzias, Azalea mollis, Rhododendrons, Staphyleas, &c., may be brought into warmth. Begonia Gloire de Lorraine that has done flowering may be cut slightly back (if cut back hard at once it is likely to die), placed into an intermediate house, and kept rather dry. Poinsettias that have been cut may be placed under the stage in the same house. Such plants as Gardenias, Cinerarias, and Mignonette that are coming into flower should be given an occasional watering with liquid manure. Gloxinias which show signs of active growth must now be potted in a light porous compost of rich fibrous loam, peat, leaf-mould, and sand, but avoid covering the hearts. From four or five sowings it is easy to have this most useful and beautiful plant in flower every month of the year. Seed sown now will flower in June if kept in a moist, warm atmosphere, which is essential to a luxuriant growth. Seeds should be sown in well-drained pans, using a finely sifted compost of leaf-soil and peat in equal parts, with a sprinkling of charcoal and sand. Sow very thinly and only slightly cover with fine soil. If sown thickly seedlings are apt to damp off. Place the pans in a temperature of about 65° and carefully shade from the sun.

GESNERA HYBRIDS.

These are also valuable plants for the stove conservatory in summer and autumn, and require the same treatment as the Gloxinia.

CHRYSANTHEMUMS.

The cuttings inserted last month are now forming roots; the strong-growing varieties are the quickest to strike, and should be removed to a frame by themselves where they can have more air to prevent a weak growth. Cuttings of the varieties that could not be taken last month should be inserted as soon as ready.

JOHN FLEMING.

Wexham Park Gardens, Slough.

KITCHEN GARDEN.

FORCING.

Much will depend upon facilities as to what extent this can be practised. The forwarding of many kinds of vegetables is easily accomplished where proper means are provided, such as small forcing houses, heated pits, and good Mushroom houses, but much can be done in a smaller way with ordinary frames and hot-beds, and now is a capital time to begin. Hot-beds must be made in a workmanlike way. The best material for the purpose is good Oak, Beech, or Spanish Chestnut leaves, and long stable litter, sufficient only of the latter to hold the leaves together. This should be built to a height to ensure a gentle heat, allowing from 18 inches to

2 feet over and above the size of the frames for lining. Do not be in too great a hurry to place the soil in the frames. Many crops become spoilt through the soil being overheated. Only when the heat is well on the decline should this be done. It is easy to test matters by thrusting in stakes and examining each morning, but at the same time the compost should be prepared and placed under cover in readiness. Asparagus, Potatoes, Carrots, Radishes, Mint, and Tarragon are easily forced in this way at this season, and later on Spinach, Lettuce, Turnips, Cucumbers, and Marrows. The frames should face full south, and be sheltered as much as possible from the north and east winds. The frames which are used for Asparagus after the crop is over come in well for succession Potatoes, but the soil should be renewed. The soil, except for Carrots, should not be too fine, and a suitable mixture is two parts good fibrous loam and one each leaf-soil, old Mushroom bed manure, and road sand. Add a fresh lining of stable manure when necessary, and protect the glass against frost. Watch for the appearance of the young growth, and give air freely whenever safe to do so, especially in the morning, but shut up early to conserve as much sun heat as possible at this season.

TOMATOES

which were sown early last month should now be good strong sturdy plants ready for shifting on into 6-inch pots. These should produce good crops of fruit during May and June. The soil should be moderately light and porous, the pots well drained, and do not pot too firmly. The compost should be nicely warmed, and great care be taken not to give the plants a chill, but pot them in the house in which they are growing. Do not overwater—rather err on the side of allowing them to become dry at this time of the year. Keep them in a temperature of about 60°, and as close to the glass as possible.

CUCUMBERS.

Those in bearing will require a brisk temperature night and day, and do not overcrop them. The plants must be syriaged morning and early afternoon, and a moist atmosphere maintained by frequently damping down the paths and walls, or red spider and thrip are sure to cause much trouble. The succession house ought now to be planted, and another sowing made in 3-inch pots in a brisk bottom heat.

ONIONS.

To obtain large bulbs seed of the best kinds should now be sown in boxes and raised under glass. The most suitable structure is an early vinery or Peach house which is just being started. The boxes should be well drained, and a suitable compost is light loam, leaf-soil, and road grit. Use it in a moderately fine, dry condition, and make very firm.

LEEKS.

The first sowing of these should also be made now either in boxes or 3-inch pots: the same kind of compost and temperature will suit these also.

FRENCH BEANS.

A small sowing should be made in 7-inch or 8-inch pots every ten days (I prefer Canadian Wonder to any other) to keep up a supply. Those which are bearing should be given manure water at every other watering, and the growths syriaged freely twice daily with tepid water to ward off attacks of red spider.

E. BECKETT.

Aldenham House Gardens, Elstree, Herts.

CAMPANULA LACTIFLORA.

THE subject of the illustration is one of the best of the border Campanulas, though it is not by any means often seen in gardens. Its handsome upright growth and masses of milk-white flowers only faintly tinged with lavender are of remarkable beauty. It is a plant from the Caucasus, that mountainous home of so many of the family. In this case it is the lavender-blue flower that is the garden variety, the type being nearly white.

CORRESPONDENCE.

(The Editors are not responsible for the opinions expressed by their correspondents.)

FABIANA IMBRICATA.

[TO THE EDITOR OF "THE GARDEN."] IR,—Here in Southern Hants this shrub

is not hardy, except with some protection against a wall. Not far from here is growing an exceedingly fine specimen at the foot of a south wall with an addition of a glass-covered verandah over it. This slight protection seems to afford the necessary warmth during sharp weather, as well as assist in the ripening of the wood in the autumn. This has much to do with the freedom of flowering, which is an annual occurrence. I find cuttings of the half-ripened shoots taken off early in September and inserted in sandy soil in a cold frame root readily, and grow into sturdy plants.

Bishop's Waltham.

E. MOLYNEUX.

SWEEPING PATHS AND OTHER MATTERS.

[TO THE EDITOR OF "THE GARDEN."] SIR,—May I suggest that one of your correspondents, who does not consider that the kind of broom lately recommended can be better than his old one, should give it a fair trial before coming to this conclusion. I should like to open up another important matter, namely, the question as to the advantage of labour-saving appliances of the best kind in private gardens. Many, perhaps most, agree that it is "all in the day's work," and that any arrangement for simplifying and reducing work is a useless expense, giving the gardener more time to idle about. A long experience shows this to be a serious blunder. If the employer shows no appreciation of the value of time, and no objection to wasting it with inferior tools and appliances, the man naturally follows his employer's lead, and sets little value on his own time, which can be easily wasted in a garden. We keep always the best labour-saving appliances, and see they are used; a poor tool is cleared out of the way, and the men spend the time which would otherwise be wasted on improving all round. Work is better done, and many things are done which would be impossible if we went on the principle of using old, bad, or indifferent tools without consideration as to the time they waste. One of the occupations in which a very large amount of time is wasted is watering; instead of the water coming to the man, he has to carry it in most private gardens; the



CAMPANULA LACTIFLORA.

watering cans are clumsy, unhandy, and slow in delivery. This is a point on which we might well take a lesson from the French market gardener, who as a rule will, compared with us, do the same amount of watering in less than half the time and with very much less labour. He arranges his beds so that he can use two cans, one in each hand. The same thing occurs in tree pruning; one man will spend more time in climbing up and down a ladder than another requires to do the whole with proper tools, and so on through the garden work. I have seen the entire staff of one large garden, where the glass covered about an acre, spending three hours daily in watering, carrying all the water over an average of 25 yards to 30 yards. An expenditure of £5 would have saved at least 25s. per week in wages, but it was "all in the day's work," and the owner of the place could not be made to see that it cost him anything. Heavy rakes, badly-shaped spades, hedge clippers which only cut for about half the length of the blade, heavy and stiff lawn-mowers, coke stores away from the boiler pit, and many other things tell, and make up a total, which becomes a heavy tax or reduces the standard of efficiency and the degree of pleasure a garden might otherwise attain and give. Money devoted to good labour-saving appliances is always well spent, and a good gardener takes a pride both in having and in using them. J. F.

THE SEVEN SISTERS ROSE.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—Can anyone tell me the name of the true Seven Sisters Rose? I have seen various Roses named thus, and have come to the conclusion that there must be some slight misunderstanding, as it is not possible for more than one variety to bear that name. I have a Rose which is known locally as the Seven Sisters Rose, and has received three other names from experts. The first said it is *Myrianthe renonculæ*, the second called it *Ranunculoides*, and the third called it *Félicité Perpétue*. It is an evergreen variety, making yearly growths of 8 feet, and flowers most abundantly, producing huge clusters in June. The flowers are quite small, cup-shaped, with neatly arranged petals, pure white at first, with age tinged with pink, deliciously sweet and long lasting. Perhaps someone can tell me the correct name. It is quite an old variety, having grown here for the last thirty years. The plants are quite easily raised from cuttings, and succeed admirably. For arches, pergolas, walls, or fences it has no superior in its way, and should have a place in any garden where quick growth and freedom of flowering are desired.

Bishop's Waltham.

E. MOLYNEUX.

BOOKS.

The Horticultural Directory.*—The forty-third volume of this useful work is published. The editor endeavours, as far as is possible, to bring up to date the changes that have occurred in the addresses of private gardeners and nurserymen during the past year, and it is owing to this that the "Horticultural Directory" is welcomed now as heartily as ever. A list of plants certificated by the Royal Horticultural Society from October, 1900, to September, 1901, and many useful garden recipes, are also included in this publication. As a book of reference it is indispensable to the horticulturist.

The Rosarian's Year Book for 1902.†—This is an annual friend, and edited by the veteran hon. secretary of the National Rose Society, the Rev. H. Honeywood D'Ombrain. It opens with a portrait of Mr. O. T. Orpen, and an account of this famous Rose exhibitor by the Rev. A. Foster-Melliar, who writes: "All Rose exhibitors know the very strong position he has

attained in the last few years—that he has won the Tea Challenge Trophy five times (once more than Mr. Hill Gray, with his much larger garden) and that he is probably as invincible in the season with twelve Roses as Mr. Lindsell apparently is with thirty-six. . . . It is in Tea Roses especially that Mr. Orpen is so strong. On some occasions of late years his Teas have been obviously as good, and perhaps better, than those of the leading professionals. . . . Until 1897 he had less than 1,000 plants of exhibition varieties, and his plants now number 808 of garden varieties, 814 of Teas (of which 555 are standards), and 869 of Hybrid Perpetuals and Hybrid Teas (of which 41 are standards). His plants are not pruned very hard, and each would, I think, carry two exhibition blooms to one that my plants could bring to perfection. With these he has won, in the last ten years, 168 first prizes, 27 medals, and 101 second and third prizes. These first prizes include the National Rose Society's Tea Trophy five times, the principal prize for Teas at the Royal Horticultural Society's shows six times, Harkness Challenge Cup three times, Diss Challenge Cup five times, Ramsey Cup twice, and the Brentwood Challenge Cup this year, which has been his most successful season, his prizes at seven shows consisting of twenty-five firsts, five medals, eight seconds, and two thirds." "The Glory of the Rose," extracted by permission from "Fortunatus," by the Poet Laureate; "Some Garden Roses and their Uses," by Miss Jekyll; "The Rose and the National Rose Society," by the Editor; "Observations on some of the New Roses of 1900-1901," by the Rev. J. H. Pemberton; "Stocks and their Influence," by Mr. B. E. Cant; "The Development of New Types of Roses," by Mr. George Paul; and "The Weather of the Past Rose Year," by Mr. Edward Mawley, comprise the other features.

OBITUARY.

MR. GEORGE ST. PIERRE HARRIS.

NOT a few Dahlia enthusiasts are to-day mourning the loss by death of Mr. George St. Pierre Harris a few days since at the great age of ninety-four years. When his widow apprised me of his death she added, as a kind of postscript to her letter, "No more seedling Dahlias!" The show Dahlia was the one flower upon which he doted; he had a grasp of the true properties of a florist's Dahlia he had gathered up in his intercourse with the great Dahlia cultivators and raisers of the past—Glenny, Keynes, Turner, Fellowes, and others. Born at Goddington, Chelsfield, early in the past century, he came to live at Orpington, and built himself a charming mansion on Leeds Hill, and formed a garden in which he ever took great delight; but the show Dahlia dominated in his regard for flowers. To him a perfectly formed show Dahlia was an ideal flower, and, caring not what others said and thought, he devoted the latter years of his life to endeavouring to improve it along the lines laid down by Glenny and others. In easy circumstances all his life, being the owner of a good deal of property in the neighbourhood, he had a passion for outdoor pursuits. He was a member of the West Kent Yeomanry, and he had lived to be the sole survivor of the corps. As a cricketer he gained much renown, taking part in many matches, and always in a high hat and braces, as I remember the old school of cricketers did sixty years ago. He was a keen sportsman, and clung to old-fashioned methods with great tenacity. He shot with the same single-barrelled muzzle-loading gun for upwards of sixty years.

I visited him in 1900 at the time his Dahlias were in bloom, and spent a very pleasant time with him among them. He grew a select collection of named varieties in order to have the highest quality of seed for sowing, and I noted among the seedlings then in bloom a few of a highly promising character. During the past season he exhibited

several new varieties, and gained awards for two of them. One was a fancy named *Mariner*, which at the exhibition of the National Dahlia Society, held at the Crystal Palace, not only obtained a certificate of merit, but was also awarded the special prize offered for the best seedling fancy Dahlia of the year. It is a flower having a bright lilac ground, splashed and flaked with maroon-crimson. A deep chestnut-red self named *Standard* also received an award of merit from the floral committee of the Royal Horticultural Society. Other new flowers raised and exhibited by Mr. Harris during the summer were *Flower of Kent*, *Brilliant*, *Queen of the Primroses*, and *Sunset*, all show varieties.

Some years ago Mr. George Rawlings named a fine crimson self after him, which is still grown and exhibited, and one of the leading selfs of the present day is *Ruby Gem*, raised by Mr. Harris. He was a member both of the National Dahlia Society and also of the London Dahlia Union, and he always made a point of attending their exhibitions, and was always to be found at the meetings of the Royal Horticultural Society in the Dahlia season. A son, bearing his father's Christian names, survives him. R. DEAN.

A GARDEN IN THE SHADE.

A GARDEN in the shade is very often not a garden at all. How few understand the gardening possibilities of shade, how many and how delightful are the plants that will grow therein, and how innumerable are the advantages it offers to the gardener in providing a succession of even those flowers that love the sunlight! It is but rarely that these conditions and possibilities are utilised to their full extent, or, indeed, utilised at all, and I think this is owing chiefly to the fact that many are unaware such possibilities exist. I form an opinion from the aspect of the shaded portion of the majority of gardens it has been my privilege to visit, where Laurels, Aucubas, Mahonias, and a few other evergreens, more or less attractive it may be, but still excessively monotonous are the chief components of the borders from one year to another. It is true my experience may have been a particularly unfortunate one; it has, however, the merit of being an extensive one.

My object in writing is not to suggest that one may have the garden in the shade of the same brilliant splendour, varied hues, and profusion of blossoms as the more advantageously situated portion, yet I think for originality and distinctness, soft and pleasing colours, and lasting flowers, the shaded garden has a charm all its own. Doubtless most of the neglect of and ignorance concerning the gardening capabilities of shade are due to the fact that one can usually obtain quite sufficient enjoyment from that part of the garden more favourably placed, a greater variety of flowers of more brilliant colouring, and an effect altogether more splendid. Those, however, who are thus content miss much. There are some flowers whose colours are never more beautiful than in the deep shade—in fact, unless seen in the shade are never seen at their best—such, for instance, as whites, pinks, pale blues, and mauves. Flowers grown in the shade are more lasting when cut than are those gathered from a border fully exposed to the sun; they are in some cases also of a deeper hue. The difference between the southern and northern aspect of most well-kept gardens is as a bright June morning to a foggy day in November. The contrast is so complete that the sudden transition (nothing more than a brick wall may divide) from all that is symbolic of life and beauty, and warmth and brightness to all that denotes neglect, cold, and barrenness, gives one a mental chill. On the one side is all that is most delightful amongst flowers, the richest of hues, the sweetest of fragrance, and on the other there may be no flowers at all. This is no dream of imagination, but a bare statement of what may be seen in far too many of our gardens.

Herein lies one of the greatest differences between gardens cultivated and gardens wild. Where will you find the most beautiful and chaste of our

* "The Horticultural Directory." Published from the "Journal of Horticulture" office, 12, Mitre Court Chambers, Fleet Street, E.C. Price 1s.

† "The Rosarian's Year Book for 1902," edited by the Rev. H. H. D'Ombrain. Published by Benrose and Sons, Limited, 4, Snow Hill, and Derby. Price 1s.

indigenous flowers? Is it not by the moist and shady hedgerow, or in the secluded woodland or almost impenetrable dell—places where the sun but rarely reaches? Yet in our made gardens how entirely otherwise; those spots in almost perpetual shade are as bare and lifeless as they well can be. 'Tis strange that nothing of more interest and beauty can be thought of to embellish the approach to the northern side of a house than the commonest of evergreens, as those already mentioned. But little observation is necessary to learn that the *Rhododendron* will thrive at least equally well in the shade as in the sun, if, indeed, not better, and almost the same may be said of the *Azalea* also, and the *Camellia* can without a doubt be included in the same category. It is hardly necessary to state that the *Camellia* is quite hardy (it has been proved repeatedly to be harder than the common *Laurel*), for readers of *THE GARDEN* will remember the interesting letters upon the subject of "*Camellias in the Open*" that appeared but a few months ago. The *Hypericum* are shade-loving plants, and these have a quaint beauty all their own. Several of the species are good garden subjects, and *H. calycinum* (St. John's Wort) is the most accommodating of them all, though not the most graceful. One need not confine one's self to planting *Berberis vulgaris* (though I would be the last to say this is not most acceptable in the shrubbery) when *B. Darwinii* and *B. stenophylla*, two beautiful sorts, will do equally as well. Why also not relieve the monotony of your northern border with a few flowering Currants, such as *Ribes sanguineum*, *R. aureum*, *R. speciosum*, and others? Again, are the curious winter-flowering *Witch Hazels*, *Hamamelis arborea*, and *H. virginica*, *Forsythia suspensa*, *F. viridissima*, the best of the variegated and berried *Hollies*, the deciduous *Honeysuckles*, *Lonicera Staudishii* and *L. fragrantissima*, both of which flower in mid-winter, and the *New Zealand Daisy*, *Olearia Haasti*, all to be despised?

How many have cultivated *Roses* on a north border? I know a wall facing due north that is covered with *Roses*, the plants being planted in a narrow made border at the foot, and those who have never tried to grow the queen of flowers in a garden in the shade would be surprised to find how accommodating she is. But my list might with ease be prolonged till it were wearisome. I have not told of the Japanese *Anemones* (which, by the by, covered the north border, wherein the *Roses* were planted), pink and white and bluish, the *Day Lilies*, the blue *Aquilegias*, various *Liliums*, *Solomon's Seal*, *Lily of the Valley*, *Violets*, *Forget-me-nots*, *Violas*, *Priuroses*, *Meadowsweet*, *Wood Anemones*, and numerous small bulbous plants. Surely the material is not lacking for such a purpose as the one under consideration. I do not pretend to have given a full list of plants suitable for shaded ground; it is possible, indeed, that I have made important omissions. I have at least indicated some I know to be capable of adding life and brightness to this usually neglected portion of the garden, and perhaps other of your readers will still further assist to increase the list of plants that go to make beautiful the garden in the shade.

T. F. W.

NURSERY GARDENS.

WINTER FLOWERING BEGONIAS AT MESSRS. J. VEITCH AND SONS.

WITH the winter season, and also with the fogs, which appear to be part and parcel of it, the production of flowers grown in a natural way seems to come to a standstill. The *Chrysanthemums* are practically over, and very few are the plants which make our greenhouses and conservatories gay at this time of the year. The tuberous-rooted *Begonias* are over, but those belonging to the new series, for which the horticultural world is greatly indebted to the labours of Mr. John Heal, are intended to fill a gap and be of greatest service as

decorative winter-flowering plants. They all are the results of crosses in which the lovely *B. socotrana*, a species introduced to our gardens some twenty years ago, has played a most important part, in some cases as seed-bearing parent, but more often as male parent. In either instance, the influence of this winter-flowering species is very noticeable, as it also is in the disposition of the flowers of the progeny. The first of this series of hybrids, all of which were raised at the Chelsea nurseries, was the one named John Heal, a very pretty plant of slender habit, and without doubt one of the most free-flowering varieties obtained up to the present by Mr. Heal. It is the result of a cross between *B. socotrana* as female plant and a crimson coloured tuberous variety called *Viscountess Donacaile*: the flowers, small and single, are produced in great profusion, borne on long and slender stems; they are of a bright crimson colour, and remain a long time on the plant. Winter Gem, with large flowers of a deep crimson colour and with distinct *socotrana* foliage, also came from a cross in which *socotrana* was the seed parent. In most, if indeed not in all other cases, *B. socotrana* was used as the pollen parent, the seed-bearing plant being invariably one of the numerous forms of the justly popular tuberous section. It is from one of these crosses with an orange-scarlet form that the beautiful variety *Mrs. Heal* was obtained. Its flowers, like those of John Heal, are single, but they are of a much larger size, many of them measuring fully 3 inches in diameter; they are produced well above the foliage, and of a bright orange-scarlet colour. Myra, also a single-flowered variety of somewhat loose habit, but with large pink blooms produced in great quantities and disposed in long racemes, came from the same cross, as did also Winter Cheer, a robust grower of excellent constitution, with very bright semi-double flowers of a rich red and most pleasing colour. In *Ensign* we have a *Begonia* of special value, inasmuch as it is perhaps the one combining together the most valuable qualities for a decorative or market plant. It is of robust habit, with well-shaped and large double flowers of a particularly bright pink and pleasing colour, and these are so abundantly produced that it is not unusual to find from sixty to eighty flowers and buds on a plant 18 inches or 20 inches high. This was the result of a cross in which a semi-double flowered tuberous rose-coloured variety was used as the seed parent.

It is from this same or from a similar cross that Winter Perfection, a variety of somewhat dwarf habit, with double pink flowers disposed on well-branched racemes standing well above a fine dark green and shining foliage, was raised, and the same cross also produced *Ideala*, the lovely variety shown at the Drill Hall meeting of November 26, where it attracted great attention, and most deservedly received an award of merit (figured in *THE GARDEN* for January 4). This is by far the dwarfest of all varieties raised up to the present, but its perfectly shaped and large flowers, of a most pleasing bright rose colour and fairly double, are well shown above the foliage, and the whole plant has a particularly neat appearance. *Venus* is a brilliant variety with semi-double flowers of a peculiarly bright red, and is the result of a cross between a crimson coloured form of the tuberous-rooted section and *B. socotrana*. Perhaps the most distinct of all the varieties raised, but not in commerce yet, is *Julius*, the result of a cross between a white form of the tuberous-rooted section and *socotrana*. Its beautiful flowers, of large size and fine substance, greatly resemble those of the double pink *Oleander*, and are of exactly the same colour. It is also a plant of good habit and is free flowering. The only variety in commerce yet which is a hybrid of the second degree from *socotrana* is *Adonis*, as in this case John Heal was the pollen parent plant, while the seed bearer was an orange-scarlet form of the tuberous section. It is a variety of medium height, with large single flowers of a particularly bright red-currant colour, free flowering, but of a somewhat straggling habit. It is also worthy of record that a plant in every respect similar to the justly popular *B. Gloire de Lorraine*—raised by M. V.

Lemoine, of Nancy, many years ago—has been produced by crossing *B. socotrana* as the seed-bearing plant with the old-fashioned *B. Moonlight* as pollen parent.

To the above descriptions we may add that these plants, being of easy culture, never requiring stove temperature, and flowering as they do at a time of the year when bright-coloured flowers are particularly scarce, should receive at the hands of all lovers of horticultural productions a great deal more attention than is actually bestowed upon them. With the exception of *Ideala*, which is of quite a dwarf habit, most of the other varieties make what may be termed very good decorative plants, averaging from 16 inches to 20 inches in height, and becoming loaded with their beautiful flowers, which usually last from October until February. Even young cuttings rooted only last August are now covered with flowers, and are about 9 inches in height. A porous, rather sandy soil suits them best, and they should be grown only in an intermediate temperature, or they are likely to develop a greater quantity of wood than is needed, and at the expense of their flowers, which only require to be seen to be appreciated by all lovers of the beautiful. S. G. SCHNEIDER.

EDITORS' TABLE.

OROBANCHE SPECIOSA.

I have thought it may interest your readers to hear of what is, to me, a discovery about our old friend *Orobanche speciosa*, namely, that it is perennial if not exposed to frost. Some plants of it, which appeared in one of our cool houses,



OROBANCHE TUBER.

left behind them, when I drew out the flower stems, an apparatus like a resting tuber, evidently full of life. The claws are not so strong as those of *Ranunculus* tubers, and yet too strong for the legs of the biggest house spider. Here is a rough life-size sketch. The little triangle in the middle represents the tuber eye. The whole looks like a small edition of the Bird's Nest Orchis. A further delightful revelation is the appearance of a fine young flower-stem from one of these plants, now about an inch high. The tubers were quite loose while resting, afterwards laying parasitic hold upon *Linaria Cymbalaria alba* that was wandering upon a covering of damp coke siftings.—F. D. HORNER.

IRIS ALATA.

Mr. Bowerman (gardener to the Rev. Canon Bernard, The Close, Salisbury) sends flowers of this delicately beautiful winter *Iris* with these words: "The flowers open with us annually out of doors, and we often get two from a bulb." These winter-flowering *Irises* are amongst the most treasured of winter's gifts, and *I. alata*, with its distinct leek-like leaf arrangement, is one of the most welcome of all.

RECENT PLANT PORTRAITS.

THE *Botanical Magazine* for December contains portraits of *Cyrtopodium palmifrons*, a native of Brazil. It is a large-growing *Orchid*, with foliage resembling that of an *Arecoid Palm*, and tall branching flower-spikes bearing numerous bunches of greenish yellow flowers, three out of whose five petals are spotted with red.

Eucalyptus Gumii var. *montana*, a native of Tasmania and Victoria. This is a small tree growing in swampy soil, with greenish white flowers.

Spirea Millefolium, a native of California. This is also known as *Chamaebatiaria Millefolia* and

Chamaebatia foliolosa. It is a very pretty *Spiraea*, with bunches of relatively large pure white flowers. Its foliage emits an odour of creosote. It was first discovered in Arizona in 1853 by Dr. Bigelow. It has also been found on the Sierra Nevada of California at an elevation of 1,000 feet. It flowered in the open air at Kew in 1901.

Impatiens psittacina, a native of Burma. This is a very beautiful Balsam, with large rosy purple flowers and white centres.

Megacorchilus leucorhuchis, a native of Lagos. A curious Orchid of no beauty, and of merely botanical interest.

The December number of the *Revue de l'horticulture Belge* gives a fine double plate of a huge pure white *Chrysanthemum* named Mme. Georges Mazuyer.

The second part of the *Revue Horticole* for November contains a portrait of an American red Apple named Hoover.

The first part for December has a very pretty plate giving portraits of two single Roses named respectively *R. variegata* var. *Anemone* (pink) and *R. macrantha* (pure white).

The second part for December figures *Pitcairnia micheliana*, a bromeliaceous plant, with bunches of tubular red flowers.

The ninth part of the sixteenth volume of *Lindenia* figures *Cypripedium glomeratum*, a fine large-flowered handsome bright-coloured variety.

Lulio-Cutleya aleshiana, a beautiful pale rosy purple flower, with deep purple lip faintly white edged.

Lycaste Deppei var. *punctatissima*, a pretty white-grounded flower, closely and densely covered with minute rosy purple spots, and with a yellow lip spotted with chocolate.

Sarcocylus unguiculatus, a plant with long pendulous racemes of medium-sized pure white flowers, with a yellow tip to the central tube.

W. E. GUMBLETON.

Belgrave, Queenstown, Ireland.

WEATHER NOTES.

RAINFALL AT HAMPTON MANOR, WARWICKSHIRE, DURING 1901.

	No. of Days on which Rain fell.	Total for each Month.
January	15	1.31
February	9	1.35
March	14	1.81
April	14	1.93
May	8	1.02
June	10	1.03
July	7	3.89
August	13	2.26
September	10	1.12
October	13	1.70
November	8	0.83
December	14	3.91

Total... 22.16

On July 19 136° were registered in the sun; 1.50 inches of rain fell on July 1, and 1.32 inches on December 13.

KEW NOTES.

THE WINTER BEAUTY OF CONIFERS.

At this season, when there is not much in flower out of doors to distract the attention, we may do well to take the opportunity of studying the relative value of the smaller Conifers, for Spruce, Cypress, Juniper, and even Pines are represented in various miniature forms in the rock garden at Kew, and supply a good object-lesson. Of these, perhaps,

Juniper may be placed first. The common Juniper with its grey-green colouring and blue-black berries, is always beautiful, whether used as a hedge or screen, as it sometimes is in the uplands of Tuscany, and might well be so used in suitable districts in England, or as an ornamental shrub, either tall or low growing, according to the position it is destined to fill. In the rock garden nothing can beat the well-known prostrate form of Savin (*J. Sabina procumbens*), which is a native of North America, and thoroughly hardy, and which, though it can be used in many ways, as, for instance, to break the formal edge of a wide border on grass or

gravel, yet never looks better than when it scrambles over and half conceals a ledge of rock or big boulder with its trailing sea-green branches. Examples of this and of a dwarf form of the Red Cedar (*J. virginiana compacta*), which has, however, none of the characteristic colouring of the Juniper, are established in the rock garden. Next to Junipers—though some would probably give them the foremost place—come the various dwarf forms of

Cypress, better known in the gardens as *Retinosporas*. It is well to bear in mind, however, in selecting new Conifers that these are now classed under the sectional name of *Chamaecyparis*, lest we find ourselves encumbered with more duplicates of the same sort than we want. Amongst the smallest and most elegant of these *Chamaecyparis* or *Retinosporas* are the varieties of *C. pisifera*, so called from their small Pea-like fruits. This graceful Conifer is a native of Japan. The type may be found in English gardens, sometimes growing to a height of 20 feet, but there are several dwarf varieties, green, as well as so-called gold and silver forms, such as *C. p. squarrosa sulphurea*, a comparatively recent introduction, and *C. p. plumosa aurea*. The variations of form which occur, however, are considered by botanists rather as gradations of growth, more or less enduring, than as permanent attributes, and the garden names attached to them, such as *C. p. nifera*, in reference to its thread-like branches, and *C. p. plumosa*, to a certain feathery appearance reached by the typical tree with the lapse of time, indicate fairly well their distinctive features.

C. obtusa is another delightful Japanese Cypress, taller and altogether more robust in habit than *C. pisifera*, in whose company it is found growing in its native haunts. This also breaks into many sub-varieties, some of which are quite dwarf and give plenty of contrast, both of shape and shade of colour. A remarkably fine specimen of this Cypress, in its stunted form, said to be 200 years old, may be seen growing in its original Japanese pot in the Cape house.

Belonging to this division is *Cupressus thyoides*, known in the United States as the White Cedar, one form of which is familiar by the name of *Retinospora leptoclada*. But *C. lawsoniana*, in its many diverse forms, is one of the best known of all the Cypresses in our English gardens. All the dwarf forms are suitable as well as very ornamental, some for rock gardens of the bolder type, some small enough to furnish miniature alpineries with fresh winter greenery of peculiar fitness. The

Spruce Fir is represented by several dwarf forms, among which may be named *Picea excelsa pygmaea*, which grows in pyramidal form, and seldom exceeds a foot or so in height; *P. ex. orientalis nana*, a dense rounded bush; and *P. ex. dumosa*. These are all much crowded in their manner of growth, and are not so elegant as the familiar Norway Spruce, of which they are forms, but their vivid green is very agreeable in contrast with the blue-grey of the Junipers and the more sombre hues of the *Abor-vita*. In the background of one of the interesting bays of the rock garden there is a pretty and effective variety, *P. excelsa pendula*, the prostrate boughs of which drape the upright face of the rock in a drooping, clinging fashion, very unlike the usual upstanding habit of the Spruce Firs. Nearly opposite to it in the same bay is an example of the prostrate form of *Pinus Strobus*, the well-known Weymouth Pine, which scarcely lends itself so effectively to the drooping habit. Elsewhere a miniature Scotch Fir (*Pinus sylvestris nana*) is quite at home amongst the low-growing alpine plants which hug the ground about it; and a specimen, equally dwarf, of the golden variety of the Corsican Pine (*P. Laricio nana aurea*), but perhaps a little sickly in hue, finds a place not far off. Pines, however, are so essentially grand in character that it seems a pity to rob them of their stateliness.

The smaller Conifers nevertheless deserve a little study, for they fill a distinct and useful place in the garden at all times, while in winter they serve not only for shelter, but to break the monotony of the rock garden at a season when Nature, though secretly at work in her laboratory, is scarcely yet ready to spread her carpet of fair spring flowers.

FOREIGN NOTES.

STANGERIA PARADOXA.

A MOST puzzling plant, Kunze describing it, though not having sufficient and trustworthy material, as *Lomaria coriacea*; also Th. Moore described it as the *Tamia*-like Fern. It flowered in 1854, and it was at once evident that it belonged not to the Fern family, but to the Cycadæe. In foliage it resembles the *Cycas* less, but can easily be confounded with Ferns, the inflorescence resembling that of the *Tamia*. A pretty South African plant.—*Die Gartenwelt*.

HARDY CACTI.

In *Die Gartenwelt* the culture of this class of plants is strongly recommended. Cacti will stand a frost sufficiently severe to kill *Pteris aquilina* (the Bracken). Those recommended for the severe climate of Germany are, among others, the following: *Opuntia camanchia* and varieties, *O. Rafinesquii*, *O. vulgaris*, *O. Horei*, *O. barbata* var. *gracillima*, *O. polyacantha* var. *trichophora*, and *O. horizontalis*.

LAGERSTREEMIA INDICA IN TUBS.

Not being hardy in the colder climate of the Continent, this plant is grown in tubs or large pots wintered in a cellar or shed, and put in the garden during the summer. It flowers freely from July till September. The flowers are either rose or violet-rose, rarely white, and produced in terminal racemes at the end of long branches. A good plant for cutting. (With illustration).

TROPEOLUM ISOLA BELLA.

This is the result of a natural cross between the summer-flowering *T. peregrinum* and the well-known winter-flowering *T. lobbianum*. In foliage and flower *T. Isola Bella* is quite intermediate between the two parent plants; the petals are bright scarlet, and towards the margin golden-yellow. It is exceedingly floriferous, and like *T. lobbianum* is a useful winter-blooming plant when grown in a light, not too warm greenhouse. Propagation by cuttings.

OSTRICH FEATHER ASTERS (NEW).

The form in question has long ribbon-like petals, which are slightly curled, pale lilac in colour, and white edged, a colour which has not hitherto existed in this class nor in the allied *Hohenzollern* Aster. Another dark lilac-coloured form has perfect double flowers, with long ribbon-like petals. A third new form has violet-red flowers. Sometimes, however, especially in larger flowers, the centre is of quilled petals. (With illustration).—*Gartenwelt*.

***Ipomæa aurea* and its correct name.**—On reading the belated letter of your Jamaica correspondent "W. J.," in answer to my query of November 2, as to the above-named plant, I immediately sought in my Pritzel's "Index" for *Ipomæa tuberosa*, which he says is its correct name. I found that it was figured in the ninth volume of Edwards' "Botanical Register" on plate 768. On looking out this plate, I found that the plant figured thereon had pure white flowers, and therefore could not be *I. aurea* as your correspondent asserts. On further search I found that in Vol. I. of the same work, on plate 86, was figured *I. tuberosa*, and on looking this out I found it had pale yellow flowers. I therefore think that *I. tuberculata*, and not *tuberosa*, is the name of my plant.—W. E. GUMBLETON, Belgrave, Queenstown.

Ealing Gardeners' Society.—On Monday last Mr. Richard Dean gave a most interesting lecture before this society, entitled "Horticulture and Floriculture during the past fifty years," which we hope to again refer to more fully.

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REGULATING GROWTH OF TREES AND SHRUBS.

SOME mild winter day a quiet stroll in the garden is a means of noting many bits of work that need doing, especially in the way of observing what wants to be done to relieve garden trees and shrubs from overcrowding.

The tour begins at the nut walk. It was cut out a year ago, but there are still some branches that hang too much over the path that must be removed. At the edge of the lawn is a pretty little Oak that looks well from all around. Last summer the lower branches, weighted with leaves, bent down and got in the way. A tour all round it, viewing it from every point, shows, now that the leaves are off, that it can quite well have the two lower limbs cut without harming the balance of the tree. The next branches will come down a little when the leaves are on, and the whole aspect of the tree will be just as good.

That big bush of *Halesia tetraptera* is being encroached upon by *Bambusa Metake*. It is too old to move, and we do not wish to disturb the Bamboos. It has a strong leading shoot. It shall be converted from a bush to a standard by cutting off all the side branches and letting it go clear up through the Bamboos.

Then there is that fountain-shaped bush of Garland Rose at the edge of the copse, with *Pernettyas* in front of it. The old wood of the Rose has not been cut out since it was planted six years ago. It now makes a heavy mass, a great part of which is rubbish, that bends down and weighs upon the *Pernettyas*. All but the youngest shoots shall be cut out. This will leave all the best blooming wood for the next season; it will arch over the *Pernettyas* and scarcely touch them, while the warm white flowers of the Rose will be seen to great advantage on the ground of the *Pernettya*'s dusky foliage mass.

A rather large clump of shrubs looks crowded. It is not really crowded, for the individual shrubs were planted at a good distance apart, but it is two years since they were overhauled, and they have grown much. The flowering Currant is a huge bush, and can spare quite half its wood. *Spiraea arifolia* is much too full, so are some of the Lilacs, and all the old branches of the Weigelas must come out. The *Exochorda* will bear a lot of thinning. That white Broom is asserting itself too much and threatens to hide the

Japan Snowball (*Viburnum plicatum*). The Broom shall be loosened at the root and pegged down at the foot of the *Viburnum*. The same thing must be tried a little further along where a *Cistus cyprius* threatens to extinguish the lovely *Styrax japonica*. It must come down, at first by degrees, and make a low trailing bush instead of a rather tall spreading one.

Those old Lavender bushes are beginning to open out and lose their rounded shape, and show untidy hollows. But we like them there, and they are encroaching on nothing, and as there are plenty of young Lavenders in other places they shall stay; but some China Roses shall be planted among them whose branches shall be made to occupy the empty spaces. The colour harmony they will make together will be a quite delightful one.

So one goes on, observing and noting, each year with judgment somewhat ripened, for one perceives with pleasure that some awkward or unsatisfactory corners that last year presented as yet unsolved problems are now matters of no difficulty, some happy treatment coming easily to mind.

RECENT PLANT PORTRAITS.

THE *Botanical Magazine* for January contains portraits of *Crinum Johnstoni*, native of British Central Africa. This is a handsome large growing species, intermediate between *C. latifolium*, which it resembles in the flowers, and *C. longifolium* which it is like in its long narrow leaves.

Angrecum eichlerianum is a native of Calabar, an Orchid with green and white flowers of only botanical interest.

Bauhinia yunnanensis, a native of China. This is a very graceful greenhouse climber with bunches of pale rose-coloured flowers. It is one of the many discoveries of the well-known French missionary collector the Abbé Delavay.

Schomburgkia thomsoniana var. *minor* is a native of the Cayman Islands in the West Indies. A beautiful and bright flowered Orchid with bunches of yellow flowers with a purple lip.

Hibiscus Scotti, a native of the Island of Socotra, is a very beautiful species with large golden yellow flowers with a deep carmine throat. It was discovered by Mr. Scott in 1879. Seeds of it were sent in 1899 to the Edinburgh Botanic Garden, where it bloomed in 1901 in a stove.

The January number of the *Revue de l'horticulture Belge* has portraits of *Vitis (?) voineriana*, of which only the leaf is shown, the whole reduced in black and white and one lobe coloured. It is said to be of extremely quick growth, and being evergreen is most valuable for covering large glass houses. It is a native of China, and was sent from High Laos by the French veterinary surgeon M. Voinier.

Hamantulus diadema.—This is an extremely handsome species sent from the Congo region to Messrs. Linden, of Brussels, who exhibited a fine lot of it at the last Temple show in London, where

it and some other fine companions attracted much admiration.

The first part of the Paris *Revue Horticole* for January has a plate showing four good varieties of the well known annual *Nemesis strumosa*.

W. E. GUMBLETON.

NOTES OF THE WEEK.

Forthcoming events.—Annual general meeting of the Gardeners' Royal Benevolent Institution at Simpson's, Strand, on Thursday next, January 23, at 3 p.m.; meeting of the Royal Horticultural Society's committees at the Drill Hall, Westminster, January 28.

The Seven Sisters Rose.—Mr. Molyneux will find a capital coloured figure of the Seven Sisters Rose in the Botanical Register, tab. 1,372, and a small but characteristic woodcut in London's Arboretum, fig. 513. It is one of the finest forms of the Japanese *Rosa multiflora* of Thunberg. Lindley calls it *R. multiflora* var. *platyphylla*, and Donn, in the twelfth edition of his "Hortus Cantabrigiensis," *Rosa Roxburghii* and *Rosa Grevillei*. Lindley writes in 1830:—"The Chinese call it the Seven Sisters Rose, because about seven flowers open at the same time, each varying from the other from a pale rose colour through several gradations to a deep rich crimson." It blooms from May to September.—J. G. BAKER.

The variety grown by Mr. Molyneux under this name is clearly not correct, Seven Sisters Rose, as cultivated seventy years ago, being of a purplish colour, and producing annual stems in length from 18 feet upwards. It was introduced in 1821 from China, and was known as *Rosa Roxburghii*, *R. platyphylla*, and *R. Grevillei*. A good description of the Rose will be found in London's "Arb. et Fruct. Brit.," where it is called *R. multiflora* Grevilleae, or "Seven Sisters Rose."—B.

Mr. R. Dean's Testimonial.—A meeting of the subscribers to this interesting object was held, by permission, in the Board Room of the Westminster Aquarium on Tuesday last. In the absence, through severe indisposition, of Mr. N. N. Sherwood, the chair was taken by Mr. W. Marshall. It was agreed that the presentation take place on February 4 next, that being the most convenient day succeeding Mr. Dean's seventy-second birthday—February 1—that it take the form of a cheque and a handsome framed address on vellum, the latter at a cost not to exceed £5. It was also very heartily agreed that the presentation be made by Mr. Sherwood; also that a public dinner be arranged for that purpose, the place to be determined after enquiry by the executive committee. Mr. J. H. Jones, secretary, reported the receipt up to date of the sum of £290 1s. 6d., and trusted that there would yet be a material increase.

Notes from Kent.—After the unusual wealth of flowers in the outdoor garden on Christmas Day, 1900, it was rather sad to walk round on that festive occasion a fortnight since, and, after diligent search, compile a list of only thirteen plants and shrubs in bloom. I give the names, though I fear there is nothing interesting or out of the way among them: *Laurustinus*, Winter Jasmine, white Stock (double), Pansies, Violets, Primroses, Wallflowers (two species), Christmas

Roses, Lenten Roses, *Erica carnea alba*, *Limnanthes Douglasii*, and *Ionopsidium acaule*. The only bloom of *Iris stylosa* that has yet appeared did not expand until January 2. The Winter Aconites are barely showing their green shoots above ground now (January 8), and Snowdrops seem inclined to be late also. In the greenhouse there is, of course, more to be seen. I have at last a nice few flowers on my *Canarina campanulata*. Last summer it was well baked on a sunny shelf, and this treatment appears to have suited it. It has seldom bloomed with me before. *Coleus thyrsoideus* is a beautiful plant; the flower is really blue and very lasting, but the lower leaves have a trick of falling off and leaving the stems bare.—S. G. R., *Yalding*.

Proposed Amalgamation of Royal Horticultural and Botanic Societies.—It is satisfactory to learn that the question of amalgamation is under consideration by the Royal Horticultural and the Royal Botanic Societies. Both associations can claim a large measure of public utility and support, and all lovers of horticulture owe them a deep debt of gratitude for the floral displays which are held from time to time. For a long while the feeling has been entertained that still better results might be obtained if they worked in co-operation; and in regard to the place of holding the shows, it is obvious that no better place for all the exhibitors could possibly be found than the Botanical Gardens in Regent's Park, which were really leased by the Crown for the purpose.—*The Globe*.

A note on fruit evaporating.—In the *Woman's Agricultural Times* for January there appears a tabulated statement of the result of the experiment in fruit evaporating carried out at Lady Warwick's Hostel, Reading. The probable market value of the dried fruit is set down at £2 10s. 8d., and the cost when fresh was £2 11s. Add to this the expenditure of £1 9s. 3d. for coal and £19 10s. for the evaporator, and the deficit on the working is £21 7s. 7d. In reply to a letter from Miss Bradley chronicling the failure, Mr. James Harper, Ebley, Gloucestershire, states that the price paid for the fruit when fresh is exceedingly high, most of this having been bought in a retail fruiterer's shop, and early in the season. The coal charges also he thinks to be very excessive. Mr. Harper declines to believe that better results cannot be achieved with the machine by the students. Miss Bradley, in a concluding note, says: "The machinery must be considerably cheapened and smaller appliances made more complete before we can ever hope to see the great results which are suggested by Mr. Harper, the indefatigable advocate of evaporated fruit."

Green raffia.—One of the most useful of recent introductions in florists' supplies is light green coloured raffia. *Gloire de Lorraine* Begonias and other plants with bright green foliage can be tied with it without the tying material showing in any way.—*American Florist*.

Berberidopsis corallina.—I noticed that under the heading "New and Rare Plants" on September 21 *Berberidopsis corallina* was included. This beautiful Chilean trailer, though still comparatively rare, can hardly be styled a novelty, since it was introduced into this country in 1862. The note in question recommends its trial against a wall in the open in favoured localities. In the south-west it succeeds admirably in the open, but is seen at its best not when stiffly trained against a wall but when allowed to ramble at will over rough Ivy-covered rocks. In such a position its racemes of crimson flowers, in the early autumn, form an exquisite contrast to the dark green foliage of the Ivy. It succeeds best when grown in partial shade. When associated with such a rampant grower as the Ivy care must be taken that its root-run is kept distinct from that of the latter.—S. W. FITZHERBERT.

Xanthoceras sorbifolia.—A short note on the above flowering shrub appeared on November 23, the writer of which remarks on its comparative rarity in English gardens. Its hardiness and beauty certainly merit a wider appreciation than it has as yet gained, for sufficient time has elapsed since its introduction into this country, more than

thirty years ago, for it to have become fairly common by this time. The flowers, which are borne in racemes, are, in the best form, pure white, about 1 inch in diameter, with a band of carmine at the base of the petals, and are produced in the early summer. The foliage, which somewhat resembles that of *Spiraea lindleyana*, is decidedly graceful, and renders the *Xanthoceras* ornamental even when not in bloom. The largest specimen I know of is growing in an isolated position on a lawn, and is about 8 feet in height and almost as much in diameter. This example, in addition to bearing flowers, also perfects fruits, which are much like those of the Horse Chestnut. As these ripen the husk splits into three portions, disclosing the brown seeds within, by which the plant is easily propagated. There is considerable variation in the colouring of the flowers, the tints of some being of a less pure white than others, while the basal band on the petals often varies in hue. In exposed situations both flowers and foliage sometimes suffer from late spring frosts, which injure them while tender and undeveloped.—S. W. F.

The late M. Ernest Bergman.—Although the doctors for several weeks past had given up all hope of saving Ernest Bergman, the friends of this excellent man could not reconcile themselves to the fact that he was so soon to leave them. It was with great sorrow that I heard of his death whilst I was far away from Paris, and, consequently, unable to be present at his funeral. Ernest Bergman, son and grandson of eminent gardeners who have done so much to make Ferrières the wonderful property one knows it to be, did not as a youth commence his career as a horticulturist. After his school days were over he entered commercial life, but his natural instincts soon asserted themselves, and he returned to the paternal home after having passed some time in various large establishments in England and Germany. It is thus that he became his father's assistant in the management of the gardens of M. Alphonse de Rothschild at Ferrières, a situation he occupied during many long years, and which he resigned when his father retired in 1897. It is especially as a writer that Ernest Bergman sought to render service to horticulture. He published numerous works on horticulture, as well as treatises on various species of plants represented at Ferrières—*Anthrums*, *Dieffenbachias*, *Alocasias*, &c. Neither must we forget the active part he played in contributing to *Le Jardin*. From the third number, page 31 of the first year (April 5, 1887), we find his signature attached to an article on the destruction of the Phylloxera, a question which at that time was of grave importance. Shortly after he commenced a numerous and interesting series of articles on the position of gardeners in France and abroad, articles full of judicious observations and often of good advice. It is principally, however, as an energetic member of the Société Nationale d'Horticulture de France that M. Bergman rendered the greatest service to the cause of horticulture. In turn secretary, member of the council, many years secretary of the annual and international horticultural congresses, and, finally, for the past two years assistant general secretary of our great society, Ernest Bergman invariably carried out his many duties with intelligence, zeal, and punctuality, good qualities which M. Viger has not forgotten. In manner affable and courteous, Bergman was loved by every member of the society. Although only fifty years of age (he was born on August 8, 1851), he was always among the younger members and full of animation and good humour. He was present at every horticultural gathering, whether held at Paris, St. Petersburg, Vienna, London, Dresden, Ghent, or Berlin. Speaking admirably several languages, he was as well known and appreciated abroad as in France. M. Bergman leaves a great blank amongst us. He was a loyal and sincere man. To his wife, his little daughter, and his aged mother I tender the respectful and sympathetic condolences of the staff of *Le Jardin*.—H. M., in *Le Jardin*.

Orobanche speciosa.—Is not what Mr. Horner calls a resting tuber, which he has shown bursting into life, a seed which has begun to

germinate? According to Kerner, the seed sends down into the earth a filament, which, as soon as it touches a root suitable as a host, adheres to it, and at the point of junction begins to swell, "becomes nodulated and papillose, some of the papillae develop into elongated conical pegs, one of which pierces the root of its host." At the point of union between host and parasite a bud is formed clothed with abundant scales, which may be best likened to the bulb of the Martagon Lily. Lastly, out of the bud grows a strong thick stem which breaks through the earth and lifts a spike of flowers into the sunlight. "We must leave undecided the question whether the other fibres, which terminate freely in the earth, are capable of taking up food materials from that source." This description seems to agree with the drawing, but not with Mr. Horner's observation: "Tubers quite loose while resting; afterwards laying parasitic hold on Linaria."—G. S. S.

Horticultural Club.—A most interesting meeting was held on Tuesday evening last at the Hotel Windsor, when Mr. Amos Perry, of Winchmore Hill, gave a paper on the "Improvement of Hardy Plants." It was one of the most original and interesting papers we have listened to, and we shall publish it as soon as possible. Mr. George Monro was in the chair, thoroughly restored to health we were pleased to see, and others present were the Revs. H. D'ombain, Pemberton, and Burnside; and Messrs. J. H. Veitch, George Bunyard, Rudolph Barr, — Pinches, C. T. Druery, and E. T. Cook.

The Gardeners' Royal Benevolent Institution.—A general meeting of the above society will be held at Simpson's, 101, Strand, W.C., on Thursday next, at 1 p.m., for the purpose of making certain alterations in the existing rules, as recommended by the committee of management. And the sixty-third annual general meeting of the members of this institution will be held at the same place and on the same date at 3 p.m., to receive the report of the committee and the accounts of the institution (as audited) for the year 1901; to elect officers for the year 1902, and other affairs; and also for the purpose of placing twenty pensioners on the funds. The chair will be taken by Harry J. Veitch, Esq., treasurer and chairman of committee, at 3 p.m. The poll will open at 3.15 p.m., and close at 4.30 p.m. precisely, after which hour no voting papers can be received. All the voting papers have been issued. If any subscriber has not received a copy, it is particularly requested that intimation be sent at once to the secretary, G. J. Ingram, at the offices, 175, Victoria Street, Westminster, S.W. The annual friendly supper will take place on the same date, also at Simpson's, after the annual general meeting, at 6 p.m., when Alderman Robert Piper (of Worthing) will preside. Friends desiring to be present are asked to kindly notify the secretary at 175, Victoria Street, S.W.

Broccoli Backhouse's Winter White.—For many years Snow's Winter White Broccoli was universally grown and most reliable, but of late it has lost favour, having apparently deteriorated in quality. Those who have failed with it should give Backhouse's Winter White a trial. It is of dwarf, sturdy growth, and both the stems and heads are well protected by the foliage. It is of medium size, pure white, tender, and of excellent flavour. It possesses a hardy constitution and does well in the North.—C.

Apple Norfolk Beauty.—This new Apple, of which an illustration recently appeared in *THE GARDEN*, has, I feel sure, a great future before it. I have tasted it and think it delicious. It is quite equal when baked to Blenheim Orange or Emperor Alexander, which is saying a great deal. In size and shape it resembles Warner's King, and when quite ripe is of a beautiful yellow colour. Its value is greatly enhanced by the fact that it carries its own sugar. Many of the best Apples lose much of their weight by the time they are fully ripe, but Norfolk Beauty retains its weight till the last. It crops heavily even in a young state, and this fact, together with its good all round qualities, will doubtless make it valuable for market as well as home use.—J. CRAWFORD.

Erica mediterranea hybrida.—One who prizes the earliest flowers cannot but be interested in the note on *Erica mediterranea hybrida*, which occurs in "Kew Notes," on page 10 of THE GARDEN this year. Since I first heard of this new *Erica*, a few years ago, I endeavoured to get it, but did not succeed until about two years ago. The result has been that here it is not quite so early as *E. carnea*, and I have heard that this is the case in northern gardens, although it appears to precede *E. carnea* at Kew and elsewhere in the south. This has been rather a disappointment, as one prizes *E. carnea* so much that one would have liked a winter Heath which was even earlier, if such could be had. Last year and this the first Heath has been the white form of *E. carnea*, which is known also as *E. herbacea*. This usually precedes any of my plants of the typical flesh-coloured *carnea*, though these vary slightly in their blooming period also. At present even the type is flushed with pink, while the hybrid is considerably later. I may say that I obtained my plants direct from Messrs. Smith and Sons, of Darley Dale, so that there is hardly likely to be any mistake, especially as I have compared notes with some others in the North about the plant.—S. AENOTT, *Carse-thorn, by Dumfries, N.B.*

Small-flowered Azaleas.—The small-flowered Azaleas form a pleasing feature in the greenhouse at the present time. They bloom earlier when brought on in a little heat than most of the large-flowered Indian varieties. An illustration of their usefulness just now may be seen in No. 4 greenhouse at Kew, the following kinds being there represented:—*A. calyciflora*, a small salmon-red flower, with the hose-in-hose character common to a greater or lesser extent in *A. amœna*; *A. obtusa*, with blossoms of much the same size, but not duplex as in *A. calyciflora*. The flowers of *A. obtusa* are more of a bright orange-red. There is a variety *alba*, most of whose blossoms are white, though occasionally they are striped with red. The last is *A. Illuminator*, a cross between *A. amœna* and one of the large-flowered class. The blossoms of this are of a pleasing shade of rosy carmine, and, as in the others, borne in great profusion even on small plants. These Azaleas are far more pleasing when grown as neat little bushes than they are if grafted on to a naked stem, as prevails on the Continent for the increase of the different Indian Azaleas. Speaking strictly from a botanical point of view, all of the above are *Rhododendrons*, being but varieties of *R. indicum*. The name Azalea is, however, far too firmly fixed to be readily superseded in gardens.—T.

The scarcity of early Peas.—This is one of the features of the seed business in the present year. In order to maintain precocity in early Peas they are sown on light land, and during the persistent drought of May, June, and July they suffered severely, not only from lack of moisture in the soil, but also from the heated atmosphere, which dried up the blossoms to a large extent, so that no pods were set. So much was the yield affected that two and three acres of ground scarcely afforded the average produce of half an acre in an ordinary season. The wholesale seedsmen are at their wit's end to supply orders, they have to considerably curtail them, and prices are exceedingly high. Early Peas for seed purposes, if sown on heavy ground, become in consequence taller in growth and later in blooming, and deterioration of stock is an inevitable consequence. Early Peas, and especially the early wrinkled varieties, are becoming more and more in demand; and a shortage of crop and supply like that being experienced this season is a fact to be deplored all round.—R. D.

Kniphofia prœmulinæ.—The advantages gained by possessing a greenhouse from which frost is just excluded are many, for several beautiful plants are hardy in themselves, but from their late or very early-flowering season are never seen to advantage out of doors. Other plants, again, need a little protection from the most severe frosts, yet do not like any great amount of fire-heat, and all find a congenial home in the cold greenhouse. Of the many suitable occupants of

such a house the above plant is one of the most showy in midwinter. It was introduced into English gardens by Herr Max Leichtlin, who sent a plant to Kew in November, 1894. About fifteen months later it flowered, and was named as above by Mr. Baker. Since that time its flowering has been an annual occurrence. It is a native of Natal and is as strong-growing as the common *K. aloides*, the leaves often being 5 feet long and the flower-scapes 4 feet high, terminated with a conical inflorescence, 9 inches long, of clear yellow flowers. It begins to bloom naturally in December, and lasts in good condition for six or eight weeks. An additional item in its favour is the fact that the flowers are not injured by fog. Grown in pots it may be plunged out of doors during the summer months, but, if it can be planted in a border of rich deep soil much finer results can be obtained.—W. DALLIMORE.

Mr. Luther Burbank.—In the monthly magazine *Sunset* appears a lengthy illustrated article appreciative of Mr. Luther Burbank and his work. It was in 1893, we learn, that Mr. Burbank published the first of a notable series of announcements to which he gave the title "New Creations in Fruits and Flowers." Other issues followed in 1894, 1898, 1899, and 1901. They contain descriptions and pictures of his most striking achievements, and various other interesting details. Accompanying the notes is a full page portrait of Mr. Burbank. The same number of the *Sunset Magazine* also contains an account of a Japanese garden in Golden Gate Park, San Francisco.

Agathæa cœlestis.—This charming little blue Daisy is one of those old-fashioned flowers that are gradually becoming better known and appreciated. The plants shown in the illustration were grown in a bed of standard Rose trees, but the plant is quite deserving of more ambitious treatment, and if a grey foliage carpeter is used a delightful effect may be produced. It is half hardy, but is easily propagated by cuttings. In good loamy soil, with sand added, they form shrubby bushes 3 feet high, but I think the best effect is gained by pegging down the shoots *Verbena* fashion. Its pretty blooms are produced singly on long foot-stalks. It is very free flowering, growing and blooming until cut down by severe frost. Its delightful colour is quite lost in the illustration, but when lightly arranged the flowers form a delicate table decoration. It was introduced into this country as long ago as 1753, and came from the Cape of Good Hope, and is figured in Curtis's *Botanical Magazine*, December 1, 1793. There is no mistaking our blue Daisy, although it is hidden away under the name of *Cineraria amelloides*, or the blue-flowered Cape Aster. Its modern name is much more fitting in every way. The letterpress (of Curtis) describes the flower as "well known and common in every greenhouse," which would, I venture to think, scarcely be considered an accurate description of the plant in 1902.—HERBERT E. MOLYNEUX.

Poinsettia pulcherrima and Euphorbia jacquiniæflora.—Few plants attract so much notice as these, and they flower during the duller months in the year. The scarlet bracts of the *Poinsettia* and the long sprays of the *Euphorbia* are greatly appreciated after the *Chrysanthemum* season is over, and if proper provision has not been made there may be an unpleasant blank until the forcing season is at hand. I know of nothing more suitable to fill this gap than the above. Some people advocate cool

treatment for these plants with the object of keeping them dwarf, but those who have large conservatories and corridors to furnish know the value of tall plants. Great difficulty is often experienced in striking the cuttings, and I think one of the causes of failure in this direction is the lateness in starting. Plenty of cuttings should be at hand early in May, and these will readily strike when placed singly in 2½-inch pots in pure sand and kept close in the propagating case. If a batch of cuttings can be struck later they make good plants for furnishing the base of groups and for cutting for decorations. I have found them succeed well in an intermediate temperature, often attaining a height of 8 feet. When they are forming their flowers a cooler and drier atmosphere should be given to fit them for the change of conditions when placed in the conservatory. These two plants do well under the same treatment, except that the cuttings of the *Euphorbia* should be struck round the sides of larger pots.—E. HARRISS.

Bees in the garden.—One or more hives of bees should be in every garden, both



AGATHÆA CŒLESTIS IN A SUBURBAN GARDEN.

large or small, for, apart from the advantage of always having a supply of wholesome honey for home use, much interest and benefit may be derived in various ways. In the first place, they are profitable when well managed. In this neighbourhood honey is readily disposed of to the retailer at 9s. per dozen 1lb. sections, and I have no doubt that a remunerative price may be obtained in other localities, provided that the sections are full of light-coloured honey and are presented to the purchaser in an attractive manner. During summer bees do a vast amount of good in the fertilisation of fruit blossoms, besides visiting daily other flowering vegetable and fruit crops. Even in glass structures containing various fruit trees, besides Cucumbers and Melons, the bees will enter when they are opened in sunny weather, and carry on their good work, which would otherwise need to be done by hand. There are many kinds of hardy flowering plants that the bees abstract large quantities of honey from, and such plants may be sown or planted in the vicinity of the hives as well as further afield.—H. T. MARTIN, *Stoncleigh Abbey.*

ON THE CULTIVATION OF ONCOCYCLUS IRISES.

By THE LATE REV. H. EWBANK, M.A.

(Continued from page 20.)

I do not know that the story about Mr. Potter would have been sufficient to move me alone; there might be some explanation which would deprive it of all value at once; and Mr. Blair Cochrane's experience might only be accidental after all; but it was impossible to miss the conclusion that several things which were converging to the same point could only be explained in the same way, and it was likely that there was something here which ought to be followed up. At any rate, I could not get it out of my mind that it was not well to take too much for granted, and it seemed as though the question of soil had a great deal more to do with the cultivation of *Oncocyclus* Irises than anyone had been willing to suppose, and of course when this stage had been reached all the rest followed upon it. I determined to put it all to the test and to be guided for the future entirely by the results which might be arrived at; and just then M. Van Tubergen, jun., through his representative, M. Hoog, proposed to me that we should make a series of experiments, of which the real purport was no more and no less than that of finding out if these particular plants are influenced or not by the soil in which they are planted. It was precisely the very thing which I desired to know myself, and I agreed with him at once that I would act by them in two or three different ways and would note the results that might be forthcoming.

I leave M. Hoog to tell his own story to you here, which is of the greatest possible value. He has, on behalf of M. Van Tubergen, spared no trouble and no expense in the work, and it is very satisfactory to feel that he is well pleased with the conclusion to which he has come, and we both think very much alike about it. Indeed, there is no gainsaying the fact that analysis with him has shown that there is a large percentage of lime in the soil where these plants grow naturally, and very little indeed in Holland and other places where so many failures occur. M. Van Tubergen's way of treating the Irises to lime has been very different from mine, but that is of inferior import; he joins hands with me altogether in the idea that lime must in some way be administered to them if they are to do well, and it may take a little time perhaps before it is absolutely discovered which method is the best. As I understood M. Hoog to say when he paid a visit to me in the spring, he was not quite sure if magnesia should also be employed or not. He had used it, as it was disclosed by the analysis he had made; but, turning to my Irises, he said: "If I were in your place I should leave it alone, as they seem to do so well without it." I, therefore, have not troubled myself about magnesia or anything else, except that I have treated these Irises as lime-loving plants, and I believe that this one consideration will cover everything else so far as the ingredients of soil are concerned. I mean that good ordinary loam will do for these with a little sand if it be thoroughly impregnated with lime. My practice was as follows: It seemed to me that bone-meal would be as good a food as any which I could get for my plants, and if they like lime at all they would respond to its use. I accordingly sent for a large sackful of it to Messrs. Clay, of Stratford, near London, and I distributed 112lb. of bone-meal between four large frames, giving to each one 28lb. or thereabouts. These frames, I should say, are 12 feet long, 3 feet or 3½ feet wide, and have a depth of 1½ feet or 2 feet above a foot or more of drainage, over which inverted sods have been put.

The bone-meal was thoroughly mixed and incorporated with the loam which was put into the frames, and the Irises were planted in September last towards the end of the month, and now what is the condition of some 300 or 400 Irises in the middle of March? So far as I know, they have got through the winter with the loss of only one or, at most, two plants. It is quite true to say

that I have not noticed more than two "miffy" plants, and instead of first one and then another "going home," according to gardeners' slang, in very mysterious ways, I have had no losses worth speaking of at all. This is an immense alteration, and an alteration for the better, from anything I have ever known before, and this is not the whole of the case. The plants look now, in the middle of March, in the rudest health, and are doing exceptionally well; the colour of the foliage is very good, and the outlook is as favourable as it could possibly be at this season of the year. *Iris susiana* is quite tall already, and, unless appearances are wrong, it will soon be in blossom. It is quite true that I have only made this experiment once; there may be drawbacks and disadvantages lurking in the whole thing which will be found to declare themselves, but I cannot see why it should be so. A lime-hating plant would never begin its course by simulating the greatest prosperity. And it does not look now as if these *Oncocyclus* Irises had the smallest objection to the treatment they have received. On the contrary, they seem to be greatly benefited by it. The following, among others, are in my frames: *Iris Gatesii*, *I. Lorteti*, *I. susiana*, *I. bismarckiana*, *I. lupina*, *I. urmiensis*, *I. iberica*, &c.; and those about which at present success is least marked are *I. paradoxa* and *I. urmiensis*, but this may, perhaps, come from the fact that they naturally succeed the former, and a little time may show that they are all doing equally well.

It should, perhaps, be said here—as this is supposed to be a paper about the cultivation of *Oncocyclus* Irises—that while so great an emphasis has been laid on the use of lime in the beds where they are growing, it is not meant at all that this can do away with all the other and ordinary precautions to which we have been accustomed until now. It is not right to say that lime is *per se* "the secret of success," but only that lime is indispensable to it if other things be right, and, if it be wanting, no other measures, however good they may be, will do. To this extent, but no more, it is "the secret of success." Let other things, then, be duly remembered; they are, as it seems to me, very briefly the following: (1) *Oncocyclus* Irises are only likely to do well in a sunny place; a shady locality, or one overhung with trees, would not suit them at all. (2) They must have a shelter or covering over their heads in summer months, or else they will start off into growth much too soon and will not blossom the next year. (3) Drainage must be perfect; they would not endure to be waterlogged in any degree. (4) They like firm planting. I put boards over my beds and my gardener stamps upon them till the soil beneath becomes as hard as a rock. (5) The rhizomes should be lightly covered over—just enough to protect them from frost. (6) The borders should be kept very free of weeds or anything which can intercept the agency of the light.

I believe that if these rules be attended to, and the plants be grown in soil which is impregnated with lime, very good results may be expected to follow. One thing is certain, which is this: *Oncocyclus* Irises hate to be disturbed. They send down their great thong-like roots deep into the soil and anchor themselves very firmly in it, and because of this it may also be very confidently said that what is called the "taking-up system"—which implies that the plants should be taken up out of the ground and kept on a greenhouse shelf for a few weeks or months every year—cannot, from the very nature of the case, do so well as if they remained *in situ* and undisturbed.

It is believed that no one in England has any adequate idea of what these Irises can really do, because they have been worried so much and treated after a fashion which they are prompt to resent. So far as I know *Oncocyclus* Irises have never yet remained in this country perfectly undisturbed for long years together, and only when this comes off shall we really understand what their surprising beauty is like. It is noticeable about them that when they do well they do very well indeed; it is all neck or nothing, so to say, on their part. Let us hope that their secrets are now sufficiently disclosed, and that after many years of

great trouble which they have given, they will now at last be quite contented with their lot, and will graciously and liberally reward us for our pains.—Reproduced by permission from the Journal of the Royal Horticultural Society.

THE KITCHEN GARDEN.

WATERCRESS IN COLD FRAMES IN WINTER.

WATERCRESS may be had all through the winter for salad if given timely shelter in cold frames. In many parts of the country it may be had good without frame culture, but even then it is not always such a success as when given shelter as advised. Near large towns, where good material is scarce for winter salads, sow seed in boxes in spring and plant out in rich light soil; give ample moisture through the summer, stopping the growth, and in November cover with frames. This will give a winter supply. Another excellent plan, and one that gives very little trouble, is to secure some good sturdy shoots with small roots attached and plant out in frames or in boxes early in autumn. There will then be a supply when it is most valuable. The plants do not need warmth, but should be kept frost proof and not allowed to get dry. Green fly soon attacks the new growth. In fine weather the plants should be damped overhead daily and not allowed to produce flowers, but be kept closely cut. This promotes new side growths. G. W. S.

THE QUEEN TYPE OF ONION.

Thus, a greatly improved form of Silverskin, was distributed some years ago by one of the London wholesale seed warehouses, and at once became popular, because such a greatly improved and precocious form of the old silver skinned type. By means of selection the Queen has become even earlier than it was when distributed. Few forms of the Onion have developed so rapidly and successfully as the Queen type, and it is now being largely employed for pickling purposes, taking the place of the old pickling type. When first used for pickling purposes it was found that the act of immersion in the brine changed the silver skin to a dull brown, robbing it of its otherwise pleasing appearance. But experiments with the brine have at last resulted in developing one that does not in the least disfigure the glistening silvery surface of the skin; it comes out of the brine as perfect as when placed in it; and its appearance, added to its mild flavour, finds acceptance with those who use Onions for dietetic purposes, and it is now pickled to a considerable extent. R. D.

SHALLOTS.

THE rule to plant Shallots in February, or not later than early in March, now generally holds good. Practically nothing is gained by planting earlier, for frost so often dislodges the tiny bulbs, however firmly planted, that the actual work of planting has often to be done over again. Not being very deep rooters the bulbs need not necessarily have deeply worked soil, but all the same well trenched ground suits them best when the summer is hot and dry, as then the moisture attracted from below is so much more helpful to the roots. It is often interesting to note in cottage gardens and allotments what fine crops and capital clean samples are produced on ground that has been dressed freely with road manure, as that invariably contains much grit, and such sharp substance seems to render the skins bright and clean. Why the Shallot should be relatively so much more widely grown by cottagers than it is by gentlemen's gardeners it is not easy to understand; but it is so. Seeing every summer several hundreds of cottage gardens and allotments I rarely find Shallots absent. That is to me conclusive that these bulbs are profitable to grow, as



A NOBLE SEA HOLLY (*ERYNGIUM PANDANIFOLIUM*) IN MR. GAUNTLETT'S NURSERY, REDRUTH.

also they are largely consumed. Mere size in the bulbs is not a matter for approval; were that otherwise no Shallots could excel the large Red Jersey, or as sometimes called Russian. Much better, however, is a good stock of the true old Shallot, with its brown shiny coat, firm crisp flesh, and nice nutty flavour. Properly Shallots should be always exhibited in clusters, and prizes for the best six or nine of those in a dish would result in producing much sounder examples of good culture than are found in a few bulbs selected from hundreds. Where road grit is not available, top-dress well manured ground before planting with sand, wood ashes, and soot, which are excellent substitutes.

A. D.

NOTES ON HARDY PLANTS

COLCHICUM AUTUMNALE ROSEUM PLENUM.

ONE is very hopeful that the illustration of *Colchicum Sibthorpianum* in THE GARDEN of January 4, together with the valuable notes which accompanied the plate, and those from the pen of Mr. Reuthe, which appeared at the end of 1901, will draw the attention of many readers to this unappreciated class of plants, of which the writer has been an admirer for many years, despite some defects they undoubtedly have. There are a good many interesting things about the nomenclature in gardens and the ways of the plants themselves of which one would like to speak.

Probably, however, this will be better deferred until nearer the planting time. I do not observe any mention made by Mr. Irving of the double form of *C. autumnale* which bears in the trade the name of *C. a. roseum plenum*, and which I look upon as the most valuable of all the doubles for continuous bloom for a few months at a time. I am not aware whether all the *Colchicums* offered under this name possess this virtue, but the plant I have had several times from Messrs. Barr and Sons has always been the most continuous bloomer of the collection I grow here. It is dwarfier than the ordinary double *C. autumnale*, and also than *C. a. album plenum*, the mere expensive white variety. It flowers more or less constantly from the beginning of September, and even after the New Year shows a few blooms. This note was written on January 6, and I see one little clump is pushing up a flower or two, as if to cheat us into thinking it is autumn again. It is a Meadow Saffron worthy of greater esteem than it at present enjoys.—S. ARNOTT, *Carsethoun, by Dumfries, N.B.*

MALVA CRISPA.

THIS Mallow is a vigorous annual, attaining in fairly rich soil a height of 7 feet or 8 feet. Single plants form dense pyramidal bushes, and are highly ornamental when planted in the sub-tropical garden. The leaves are of noble appearance, with beautifully curled margins. When wanted for the above purpose seed may be sown in heat in February, either in pans and afterwards potted off singly, or a pinch may be dropped in the centre of a 3-inch pot, and the weakest seedlings pulled out when through the soil, leaving one plant only. It may not be generally known that the leaves of this Mallow may be used in the packing of various soft fruits during summer, such as Strawberries, Figs, and fruits generally. I know of nothing to equal these leaves for the purpose, as they are soft as silk. I usually grow a batch of plants near the packing shed purposely, and as the young plants appear each year they are thinned slightly to allow fair development, but not so as to induce robust growth, the small and medium-sized leaves being most useful.—H. T. MARTIN.

ERYNGIUM PANDANIFOLIUM.

THIS noble Sea Holly has been grown here for many years, standing the severest of winters and gales in a most exposed situation. In the winter of 1894-1895 we had six weeks severe frost, but none of the plants were in the least affected. We believe it to be perfectly hardy anywhere. The subject of the photograph measures 12 feet high and 12 feet through, and was an ordinary single crown split from another plant three years ago, planted in the nursery border, and has never received any attention whatever. It is a remarkably rapid grower, small crowns forming an effective

plant in one summer. It seems quite indifferent as to soil, thriving freely in dry or wet situations. In openings in woods under trees we have seen it doing remarkably well, also as a specimen in a bed or on a lawn. It starts to send up its flower spikes about July, and they reach their full height in September. The spikes of the plant in the photograph were 10 feet and 12 feet high. The flowers are inconspicuous, being small round-shaped balls. The plant is not affected by wind, although it is not advisable to plant it in a very wild spot, as the flower spikes would snap in a gale. Where the flower spikes are removed from the plants when they first appear the foliage necessarily becomes much larger. There is another Sea Holly which has erect leaves, but this does not seem so hardy as the one we mention in which the foliage droops. The leaves are bright green armed with sharp spines.—V. N. GAUNTLETT, *Green Lane Nurseries, Redruth.*

VIOLA BIFLORA.

WORSHIPPERS of size in flowers appear to despise such tiny flowers as this, and look with more than a little contempt upon its small yellow blooms as they come upon them in the crevices of a rocky path or of the shady parts of the rockeries. Yet there are many who would appreciate this little flower, whose unassuming character is even a passport to the affections of many an alpine lover. Although it does not form the masses of flower given by *Saxifraga cymbalaria*, it reminds one somewhat of that plant, with its small, golden-yellow flowers and its neat leaves. It has the same power of brightening up a shady place, and is, moreover, better for growing in a crevice than the *Saxifrage*, which prefers the level soil. It has been said of it in "The English Flower Garden" that it "is a lovely ornament on the Alps, and in many parts it densely clothes every chink between the moist rocks. It even crawls under great boulders and rocks, and lines shallow caves with its fresh verdure and its little golden stars." This quotation is surely sufficient to suggest to many who grow rock plants how best they may utilise this little Violet, and how much these rockeries might be improved by its use. As remarked in the work referred to, it may seem difficult to establish, and this is, indeed, often the case when it is planted in a dry position instead of the moist, shady one it prefers. Although it grows on the European Alps, it is more widely spread than that, and at least two other continents can claim it as a native. Were it more plentiful in gardens its charms would hardly require to be brought to the notice of flower growers.—S. ARNOTT.

PHYGELIUS CAPENSIS.

SOME plants of this *Phygelius* ranked among the most ornamental of hardy plants in these gardens last summer. Our soil evidently suits it, for the plants grew and flowered with great vigour the whole summer through, viz., from June until early in November. They are in mixed herbaceous borders in an open part of the garden, and received no special attention. The soil is fairly rich and light, and becomes extremely dry and dusty during drought. This *Phygelius* appears to be allied to the *Pentstemons*, and they are surpassed by few things for beautifying the garden in summer. Increase of stock of the species is readily effected by dividing the root-stock at this time, or by cuttings or seeds in early spring. Beds or masses of this pretty plant would be very effective in certain parts of the garden, and, like many of our hardy plants of an herbaceous character, their true beauty would thus be displayed to the best advantage.—H. T. MARTIN, *Stoneleigh.*

NEW JAPANESE CHRYSANTHEMUMS.

IT is some years since there was such a plethora of sterling novelties, and this fact is so incontestable that the past season may be regarded as quite a red letter period in the history of the flower. Not the least noticeable feature is the increasing list of new raisers, new names being associated with

many of the novelties. It seems hardly a decade since some of our best known Chrysanthemum specialists were bemoaning the fact that new varieties were only procurable from the Continent and America, with an occasional introduction from Japan. All this is now changed, English gardeners and others having successfully overcome the difficulties of seed saving, and raising each season novelties which vie with those raised in other countries for popular favour. One has only to look through the list of varieties staged in the winning stands to see what progress has been made in English-raised plants, and Continental, American, and Antipodean raisers will have to look to their laurels unless they want to be eclipsed by our English raisers.

The following varieties are singled out for notice, chiefly because they have achieved notoriety in gaining some distinction at the hands of the respective floral committees of the National Chrysanthemum Society or the Royal Horticultural Society. The inclusion of a few additional sorts has been made, for the reason that they have missed recognition for some trifling cause, and, possessing points of merit, they are destined to be shown another season in the leading stands.

EARLY-FLOWERING DECORATIVE SORTS.

Harmony.—A decided acquisition to the early-flowering decorative sorts, developing quite freely, even when disbudded, charming reflexed Japanese blossoms, with florets of medium width and pleasing form. The colour should enhance its value, this being a delightful shade of terra-cotta suffused with red, and with a golden reverse. The habit is all that could be desired, this being dwarf and bushy, and also sturdy. The National Chrysanthemum Society's floral committee awarded this variety eleven out of twelve points, thus gaining a first-class certificate. Exhibited September 23.

Horace Martin.—This is the finest addition to the early-flowering border sorts of the past season, and for the next few years will probably be more often seen than any other sort of the same colour. To say it is a sport from the well-known crimson *Mme. Marie Masse*, which is regarded as a typical border variety, is to ensure for the newcomer a warm reception. Its colour, however, is its chief value, this being a rich golden-yellow, becoming richer towards the centre. This family of plants is also valued for a sturdy, branching habit of growth, together with a most profuse flowering tendency. On October 8 last the National Chrysanthemum Society awarded a first-class certificate (full points), and on September 24 the Royal Horticultural Society gave it an award of merit.

Godfrey's Pet.—A charming addition to the early-flowering sorts, being valued for pot culture when disbudded, and when naturally grown, without disbudding, is well adapted for the border. The colour is a bright canary yellow, and the blossoms, when disbudded, are of a useful size, having fairly long drooping florets. It is an English-raised seedling, is a sturdy plant, also bushy, attaining a height of about 18 inches. The honours so far accorded to it are first-class certificate (maximum points) by the National Chrysanthemum Society, September 23, and an award of merit Royal Horticultural Society, September 24.

Mychett Pink.—The lists of early sorts are by no means overdone with Japanese of a pleasing soft pink colour, the majority of existing kinds having a preponderance of lilac or mauve blossoms. The pink colour in this instance is very beautiful, and is enhanced by a golden tint in the centre of the flower. The blossoms are nice and full, and are developed on a stout erect foot-stalk of good length. The plant exhibited before the National Chrysanthemum Society floral committee on September 23 had been lifted from the open, and was convincing proof of its sturdy character. The plant attains a height of about 18 inches, and is bushy. Awarded full points, carrying first-class certificate.

L'automne.—This is an early-flowering decorative sort which may fairly lay claim to distinction. Numerous blooms were in evidence at the October show of the National Chrysanthemum Society, where their warm tones of colour were very effective. The blooms are of ideal size for use for cutting,

the plant being disbudded to some extent to achieve this purpose. "Reflexed Japanese" aptly describes the form of the flowers, the florets being of medium width and pointed. The colour is difficult to accurately describe, but rich deep terra-cotta bronze will give some idea of its loveliness. The plant is of medium height and free flowering.

Ryecroft Crimson.—Early-flowering border sorts of a deep rich crimson colour are by no means plentiful, and for this reason this new variety will be regarded by many with special favour. It is an English-raised seedling. The plant possesses a splendid constitution, has a good sturdy habit of growth, and is profusely flowered. Partial disbudding is an immense advantage. Awarded a first-class certificate by the National Chrysanthemum Society October 8 last.

September Beauty.—An excellent September-flowering sort, of a rich deep yellow colour, with the faintest suspicion of bronze on the rather narrow florets. It is said to be a seedling from the popular *Mme. Marie Masse*. Either as a pot plant, disbudded, or as a freely-flowered sort for the hardy border it is equally well adapted. The plant has not yet been exhibited, but there is sufficient promise in it to merit a trial.

DECORATIVE JAPANESE SORTS.

Bronze Soliel d'Octobre.—*Soliel d'Octobre*, from which this new sort is a sport, is better known as a large exhibition flower, though developing rather too early for the November shows. In this instance, however, the sport was adjudged purely as a decorative variety, and as such gained nine out of a possible twelve points, obtaining the coveted award of a first-class certificate from the National Chrysanthemum Society on October 21 last. As a decorative flower it is rather larger than most others, although it is distinctly pretty. The colour may be described as a pleasing fawn, which deepens in the centre of the bloom. During the past season blossoms were freely displayed in the florists' windows, the raiser of this new sort being a well-known market grower.

Pluie d'Or.—Although this variety was fortunate enough to gain the first-class certificate of the National Chrysanthemum Society on October 21 last, the plants will have to be better grown to be appreciated. It is essentially a decorative sort, but disbud somewhat freely as the foot-stalks otherwise will be too short to be highly valued for use as cut flowers. The form is also prettier and more interesting when the plant is disbudded. The colour is a rich golden yellow, and the plant is fairly dwarf and branching.

Blush Canning.—For many years *L. Canning* has been regarded as an indispensable late white Japanese variety in many quarters, so that a pleasing blush sport from that variety will indeed be welcome. In every respect but colour the sport is identical with the parent variety, and although there are growers who say that, having the lovely pink blossoms of *Mme. Felix Perrin* for late work, the new sport is not wanted, I am bound to say there is room for them both. The greater the variety obtainable in the latter part of the season the more popular is the Chrysanthemum likely to be. The National Chrysanthemum Society made an award of a first-class certificate in its favour December 3 last.

Little Jewel.—This is one of a series of new spidery or miniature-flowered Japanese distributed last spring, several of which have something pleasing associated with their blossoms. It is a flower which reminds one of the thistle-like blossoms of *Mrs. James Carter*, sent out many years ago, but in this instance the dainty little flowers are more refined in appearance, and the colour is also rather prettier. The latter may be described as clear, soft yellow, and the thread-like florets are free from coarseness. Comparing the new plant with the older one referred to, the former has the advantage of being dwarfer, and it is also sturdy. Award of merit, National Chrysanthemum Society, December 3 last.

Golden Princess Victoria.—Another useful late-flowering variety, being a sport from the well-known late-flowering sort *Princess Victoria*. The sport will be valued for its colour, which is a rich

deep shade of yellow, and is refined and pleasing. When disbudded the blooms are borne on a useful length of foot-stalk, which for plants grown for cut flowers is of the highest importance. Award of merit, Royal Horticultural Society, December 17.

Mary McBean.—This plant also gained an award of merit at the Royal Horticultural Society's meeting, December 17 last. It is a bronze sport from *Tuxedo*. Long, stout, erect foot-stalks are associated with the parent plant, and as such are invaluable for vase decorations. The florets are notched or forked at the ends.

D. B. CRANE.

(To be continued.)

THE FRUIT GARDEN.

NEW PEARS AND APPLES.

WHEN new Apples and Pears are exhibited for the first time many growers express a doubt as to their usefulness, and point out that unless the new varieties can equal the well-known Cox's Orange Apple or Doyenné du Comice Pear they are not wanted. My contention is that we should not be too critical until the new varieties have been grown in diverse soils and situations, and, though they may not equal our older favourites, there is room for them if fairly good. Although we have a great number of fruits, of Apples in particular, it is unnecessary to grow the poor ones so that the latter do not count. Both Apples and Pears, as regards mere variety, could with advantage be weeded out, but there is this difficulty, i.e., some kinds that thrive in one county fail in another. I have found the fruit committee very conservative in their awards concerning new fruits, and I think they are quite right in their endeavours to ascertain if any new fruit is likely to prove a useful addition. I do not think I shall be wrong in stating that a new fruit is given a severe test, and often a higher award would be given if their cropping, growth, and other points were better known.

These notes regarding new fruits apply to Mr. Ross's new Apple and Pear shown at the last meeting of the Royal Horticultural Society, and I am more interested in the Pear than the Apple, for this reason, that we want good Pears. In October and early November we have a good choice, but there is room for such novelties as the new General Wauchope. Mr. Ross has made splendid additions to our hardy fruits, and I think the new Pear, as regards quality, will compare favourably with the Charles Ross Apple. The raiser says it can be relied upon for cropping, as the new variety, though only a small tree, was burdened with fruit and without any special attention as to culture. As the fruits were illustrated in THE GARDEN of January 4 I need not dwell upon their size or shapes. General Wauchope is a shapely fruit of splendid quality. With regard to flavour it is superior to Ne Plus Menris, one of its parents, and much better in size and appearance, the other parent being the Duchesse d'Angoulême, which with us cannot be trusted, as, though large, it is at times gritty, whereas the new fruit is the reverse. It is soft, melting, and very juicy; indeed, it may be classed as a first-rate midwinter Pear. I wish Mr. Ross would introduce one equal in quality for a later supply, as there are so few good Pears after the New Year.

The new Apple, the Houblon, is the result of crossing Cox's Orange and Peasgood's Nonsuch, and fruit lovers will be aware that this cross has been made before by Mr. Ross. Although the Houblon does not equal the Cox's, at least such is my opinion, it is little inferior. It is stated to be a later fruit, and, if so, this will be a great gain. It is pretty to look at, not unlike the older lauravite, and beautifully coloured.

The fruits staged were not too large, just the right size for the dessert, and in this way I hope

it will more resemble the variety alluded to. Large dessert Apples are not needed, at least not in private gardens. G. WYTHES.

MISTAKES IN FRUIT CULTURE.

LEGION is the name of the errors committed by fruit growers, but my attention was recently directed to a mistake which is commonly made, and yet might be easily avoided by the exercise of a little discretion on part of the planter. The instance is an Apple orchard, planted in grass some dozen years ago, and now in a state of profitable bearing. Overcrowding is the trouble, and the present owner, who has lately come into possession, is puzzled to know what to do. The trees are splendidly grown specimens of good varieties that sell well in the market, and naturally there is a disinclination to cut away trees and wood that are a source of profit. Yet the grower is fully aware that something must be done and a sacrifice be made in the near future in the interest of the trees, and to remedy so far as possible the mistake made by the planter at the outset.

It does not need a second glance at the orchard to observe that the error was not that of planting too many trees so much as arranging them wrongly, and this is the point I would impress on anyone who may now be engaged in establishing an orchard. Blenheim Orange is largely represented, and the value of the trees to-day proves that the planter's judgment was not at fault in regard to the variety; but the fatal error was in planting them all together in one part of the orchard. The spreading trees have filled up the space and are growing into each other in a distressing way, and valuable fruiting wood must be cut back to admit the necessary air and sunshine. There is no alternative, and yet in the other part of the orchard, though the trees are planted at the same distance, there is ample room, because the varieties are of a more upright growth and less robust. Had the planter thought of this, and placed the trees of vigorous habit and otherwise alternately, the present trouble might have been avoided. Perhaps he did it for the sake of order, but this rule does not stand good where Apple trees are concerned, and the man who plants an orchard should not think alone of to-day but also twenty years hence. Valuable beyond measure

are vigorous Apple trees such as Blenheim Orange and Bramley's Seedling, but even 30 feet apart is little enough space for them when they are fully established, and it is better for the trees, as well as economy of space, to intersperse them with less vigorous varieties.

More often than not crowded orchards are the fault of the planter, because it is only natural that a man who grows for profit should hesitate to cut down a tree, and the hacking back of the branches to give more room only means a mass of rank growth and overcrowding again in the near future. As in the instance quoted, it is not always a case of too many trees, but more often the fatal error of not studying the growth of the varieties planted, nor thinking of what the state of affairs will be a dozen years hence.

Another mistake is that of planting twice the number of trees required in a permanent orchard, with the idea of thinning out half the quantity before they overcrowd each other. Doubtless the intention is good while the trees are young, but when they commence bearing the heart fails and they remain, with the result that a good orchard is ruined. Last summer I saw a row of Plum trees—specimens of good bearing age—cut to the ground to allow room for the Apples on either side. The grower was loth to do it, but he had no alternative, and I ask what was the good of planting them at the outset? Whilst they were young they produced little or nothing, and as soon as they came into bearing they had to be cut down or be left to ruin the orchard.

These are common errors that are responsible for the congested orchards about which we hear so much, and growers would do well to remember that when planting standard fruit trees there is the future to be thought of, and the evils of too many trees and lack of judgment in arranging them will become apparent as the years roll on.

G. H. H.

ROSE ARCHES.

MANY are the ways in which Rose arches may be used in gardens; indeed, it may safely be said that there is hardly a garden that may not be made the better for their use. A range of arches spanning a flower border is

always delightful. In the case of a long border, especially one whose length is rather overmuch for its width, such an arrangement is admirable, breaking up the too great length, and at the same time introducing something that is of much beauty in itself and that corrects the over-long line by its transverse treatment.

The illustration shows a connected range of Rose arches on a levelled space. It is taken from above, so that a part of its purpose is not shown, namely, that of making a series of flower-framed pictures of the pleasant landscape of wooded hill and upland pasture and deep valley. The Roses for this use are the old Ayrshires and the newer rambling Roses derived from *R. multiflora*.

AMERICAN NOTES.

HARDY DAPHNES.

AMONGST the choicest of ornamental small shrubs are the hardy Daphnes. In the vast number of ornamental shrubs in cultivation adapted to all kinds of soils, conditions, exposures, highly ornamental environments, or plain, unpretentious surroundings, the hardy Daphnes should be given a place where nothing but the most chaste and choice shrubs should be planted. Hardly any of the Daphnes will succeed and be satisfactory unless they are given the conditions that exactly suit them. As a general rule they should be planted in sheltered situations, with an eastern or southern exposure, and in light, moist soil, but always well drained.

Daphne Mezereum, the species most commonly in cultivation, is a native of Europe. It has lance-shaped leaves from 2 inches to 3 inches long, and the pinkish fragrant flowers are distributed thickly over the naked branches in threes and fours in early spring. There are varieties with red and white flowers. I was much surprised some years since when Mr. Roderick Cameron, the assistant superintendent of Victoria Park, at Niagara Falls, showed me thousands of Daphne Mezereum growing luxuriantly in the Dufferin Islands, and literally

forming the main part of the underbrush in some parts of these small islands. How it happened to get there and "take to the woods" Mr. Cameron said he could never find out.

Daphne Cneorum, known under the common name of Garland Flower, is a native of most of the mountain chains of Europe. The small evergreen, lance-shaped leaves are thickly distributed on the trailing stems, and it rarely exceeds 1 foot in height. The fragrant pinkish red blossoms are borne in numerous clusters, and are produced abundantly in May and September. To do well it prefers moist, sandy soil. If we remember correctly, Joseph Meehan wrote some time since recommending the growing of Daphne Cneorum in almost pure sand. We have seen large, handsome clumps of this lovely plant on various estates on Long Island, where it appears to grow with greater vigour than we have seen elsewhere.

Daphne blagayana, known sometimes under the name of King's Bloom, is a choice and beautiful flowering plant, and one of the rarest of the genus in cultivation. The white, tubular, fragrant flowers are borne on terminal branches, and it usually comes into bloom here about the end of April. The smooth, lance-shaped leaves are evergreen. We always place a few evergreen branches over it in winter.

According to the late Professor Kerner, in his excellent work "The Natural History of Plants," this Daphne may soon be extinct in a wild state. It is



A CONNECTED RANGE OF ROSE ARCHES ON LEVELLED SPACE.

known by only a few thousand plants in the Balkan Peninsula, and a very severe winter might wipe it out of existence. It is said it was called King's Bloom because in 1830 King Augustus of Saxony travelled several hundred miles to see it in flower in its native habitat. We feel like doffing our hat to the memory of this king for being such an ardent plant admirer.

Daphne alpina, a low, bushy, deciduous shrub from the European Alps, which does not exceed 2 feet in height, has white fragrant sessile flowers in May, and a scattering of blossoms throughout the autumn. With us this *Daphne* forms a very compact habit of growth and is a very desirable species.

Daphne Genkwa, introduced from Japan about twenty-five years since, and is still uncommon in cultivation, has beautiful rosy lilac blossoms about the first to the middle of May. In severe winters this species suffers considerably with us, but the flowers are so richly tinted that any special care spent in protecting it is well worth the trouble of enjoying it.

Daphne Laureola, the Spurge Laurel, a native of Europe, has not been tried here, but the late William McMillan, when superintendent of the Buffalo Parks, showed me, a good many years since, a fine specimen of this *Daphne* in a corner of Delaware Park devoted to choice plants. The yellowish-green flowers are not particularly showy, but it is a pretty evergreen shrub.

Daphnes are mostly propagated by seed and layers. *Daphne Mezereum*, *D. alpina*, and *D. Laureola* usually produce abundance of seeds, and if the seeds are sown as soon as ripe they will germinate the following year, but if allowed to get dry they will not germinate before two years. *Daphne blagayana*, *D. Cneorum*, and *D. Genkwa* are best propagated by layers, as they do not produce seeds, at least they never have under our experience and observation. — JOHN DUNBAR in *American Gardening*.

A BEAUTIFUL BERRY SHRUB.

At this season of the year evergreen foliage and bright berries come to mind in connection with the festivities of Christmas. Evergreen foliage is not difficult to get, but bright berries are. The pretty little shrub *Pyrus arbutifolia* is well worthy of consideration as fitted for use, because of its bright red berries. They are in little clusters of from four to six together, usually ripening in autumn, and keeping in good condition well into the New Year. Birds do not eat them, and little bushes full of berries are a sight to behold when one's grounds are bare of flowers and fruits, as winter usually finds them. Though deciduous, this native shrub holds its foliage till very late in autumn, and if in pots and kept from freezing it might hold it still later, perhaps till Christmas.

At any rate, with or without leaves, the bright appearance of its scarlet berries would be much in its favour. This shrub is a native, and is not hard to procure, and, unlike the Hollies, every plant bears berries. I am sure that *Pyrus arbutifolia* is worth considering for use at Christmas, to say nothing of its lovely sprays of white flowers in May. — JOSEPH MEEHAN in *Florists' Exchange*.

DAHLIA IMPERIALIS.

It is much to be regretted that this grand Mexican plant flowers so late that it cannot be enjoyed out of doors in English gardens, for its stature of 10 feet and spread of 5 feet only allows of its use in spacious greenhouses. The many flowers are white slightly tinted with lilac, the individual blooms being of a wide bell shape slightly recurved. The photograph from which our illustration was prepared was sent early in December by Mr. Edward Woodall, of one of the plants in his garden at Brancolar, near Nice.

VERONICA.—I.

THE thousand names of flowers and plants which are found in the Greek and Latin

authors as Gesner, Fuchs, Clusius, and a little later of our own Gerard and Parkinson, which those writers found traditional amongst the herbalists of their day, though we do not know within a century the date of their invention; it is, however, most likely that they were coined in the early religious houses.

Names so irreproachably classical in form as *Aquilegia*, *Campanula*, *Primula*, *Pulsatilla*, and others with an ecclesiastical or saintly ring, like *Barbarea*, *Mariana*, *Jacobæa*, *Angelica*, and *Veronica* were probably invented or first adopted in monasteries, in the precincts of which all kinds of plants used for medicine were cultivated, an "officina" or still for the preparation of herbal remedies being generally included in the building, while amongst the learned monks classical Latin continued to be spoken and written after it had become a dead or a corrupt language outside. Of this class of names none is more interesting than *Veronica*, of which it is here proposed to examine the history.

Those who are used to the changes of letters in names when transferred from Greek to Latin, or the converse, will easily recognise that *Veronica* is the same word as *Berenice*, which in later Greek and Latin is often spelt *Beronice*. This ancient and royal name, derived from a Greek word, "*Pherenikes*"—that is, "bringing victory"—a word found in Pindar's Odes, occurs in the Macedonian dynasty of Egypt and in the Jewish royal family of the Herods, and may easily be supposed, like many other Greek names, to have become a fashionable name amongst the Greek-speaking Jews at the Christian era. Tradition says that it was the name of the woman who was healed of an inveterate issue of blood, as recorded in the gospels, and the same tradition identifies her with the woman who wiped with a napkin the face of the Saviour when being led to execution, on which napkin the miraculous portrait became imprinted, which is still preserved as a relic in St. Peter's at Rome. This woman was introduced into the complicated theology of the Gnostics by the name *Prounike*, a contracted form of *Beronike*; but in the Romish Church the name *Veronica* became attached to the relic and not to the person, who



DAHLIA IMPERIALIS IN A RIVIERA GARDEN.

classical writings are nearly all adopted and retained in modern botany. How many of them keep their original application we will not now inquire; certainly some of them do not claim this, being now given to genera exclusively American. But besides these classical names, there are many which came into use after the close of what may be called the classical age, but before herbal literature became general in Europe, say between A.D. 500 and A.D. 1500. We know that some of these are of Arabic origin, having been given by the Arabian herbalists, and having been brought into Europe through Africa and Spain, or introduced by the Crusaders from Palestine. But other names occur in the writings of such

does not appear ever to have been made a saint. The power of healing possessed by the relic seems to have been especially efficacious in cases of open wounds and ulcers of long standing. It is probable, however, that the Christian name *Veronica* has continued in use from the earliest Christian times to this day. Alban Butler, in his "*Lives of the Saints*," published about A.D. 1790, records a St. *Veronica*—the only saint of that name—a nun of Milan, who died A.D. 1497, her day in the calendar being January 13.

But the name was applied to a plant before the time of the nun of Milan. The earliest record of it is in a fine illustrated folio, published in 1542 by Fuchs, a physician of

Bavaria. In this "History of Plants" we have portraits of a male and female Veronica, perhaps representing V. Beccabunga and V. Anagallis. Fuchs tells us that the name Veronica was universal in the "world of herbalists" (vulgus herbariorum) in his day. He gives an old tradition of the origin of the name. He says that a hunter of an ancient king of France—he does not tell us which king—observed a stag which had been attacked and torn by a wolf rubbing its wounds against and eating this herb, that the king was cured by it of an inveterate disease, and that the name Veronica was given to it "on account of its miraculous efficacy in healing bloody wounds and ulcers." This seems to connect it with the old Christian legend. Half a century later we find Veronica used by Clusius as a generic name, and he describes and figures several species which are still included in it.

The names Betonica, Vetonica or Vettonica, and Britannica, all found in Pliny and his successors, have been confused by some with Veronica through their similarity; but it will be observed that the early herbalists were careful to distinguish both in the characters and the virtues of the plants between Betonica and Veronica, and that the latter name never occurs in classical Latin or Greek. It is proposed in a future number to describe briefly a few select species of the genus as cultivated in the garden at Edge Hall.

Edge Hall, Malpas.

C. WOLLEY DOD.

AGAPANTHUS UMBELLATUS (AFRICAN LILY) IN TUBS.

THERE are indications of a revival in the cultivation of this and kindred plants for the ornamentation of terrace and gardens and the like, as shown in the accompanying illustration. It is a good sign when inquiries are made for plants of specimen size; these are even now none too plentiful, but more are seen in gardens than formerly. The culture of the Agapanthus is of the simplest description. Like the majority of the Cape bulbous and tuberous rooted plants it needs a dry season, as well as the opposite. It may be noted that it is not a plant of the Nile, as is often supposed. There is no reason why it should not be planted out more often than it is in the more favoured parts of the country; in the south and west or in quite sheltered spots elsewhere. In the Isle of Wight it withstands all but the severest winters. We contemplate giving it a trial this coming season, and for that purpose shall select a spot near to the margin of a lake, but a foot or so above the water line. After planting, protection will be given in the form of Oak or Beech leaves, with wire netting placed around to prevent them from blowing away. It is notorious to what an extent the Agapanthus will burst the pot in which it is grown, hence it is better to use tubs with strong iron bands if they be round ones. In these they will last for years, and flower even more freely when thoroughly established therein. Square tubs, as suggested in the illustration, are even better than round ones in point of appearance, whilst they are as strong if not stronger when well made. When the plants become too much crowded, and it is

not convenient to have either tubs or pots of larger size, then recourse can safely be had to division. This is easily performed in most instances by the use of a sharp edged chopper. After remaking up, it will be advisable to keep the plants in a slightly moister atmosphere, or at any rate somewhat shaded for a little time. As regards soil, nothing is better than a fibrous or turfy loam, not broken up too finely; with this coarse road grit and small pieces of sandstone or mortar rubble will assist in keeping the soil porous or open. Firm potting is most desirable and should always be practised, the spring being the better season for this work. In growing on young stock so as to encourage a rapid growth, some leaf-mould will be an assistance for freshly divided plants. Assuming that the plants are housed, or in some other way sheltered from the frost, it will be well to abstain from watering until again stood out of doors or until fresh indications of growth are apparent in the spring. To hasten the flowering under glass is scarcely expedient; on the other hand, it may be advisable to retard them, but in adopting this method we have found that the plants do not put forth as many flower trusses. The examples shown in the illustration denote the best possible culture, and clearly demonstrate the value of the Agapanthus when well cared for. When in this fine condition the plants require a liberal amount of water; this should be increased when the trusses first show themselves, and when it is found that additional assistance is needed an occasional application of liquid manure will be found beneficial.

VARIETIES.—The type A. umbellatus is the best known and the most frequent in cultivation; but there is one other fine form at least, viz., A. u. maximus, which is larger in every sense than the type. Of both there are also white varieties, whilst there is at least one double variety of the blue. Others are catalogued, such for instance as A. u. maximus giganteus; this we know to be a better form than the type, but whether it is distinct enough from maximus has to be proved. The varie-

gated, golden and silver, call for little comment, and the same applies to A. u. minor. A. u. mooreanus has the reputation of being perfectly hardy; perhaps someone can confirm this.

J. HUDSON.

[Agapanthus mooreanus is quite hardy in the open border, without any protection, in a well-drained garden in high ground in west Surrey.—Eds.]

THE FLOWER GARDEN.

SCHIZOSTYLIS COCCINEA.

AT this season a few words about this charming flower may not be out of place, and a few cultural hints may be of value, particularly with reference to locality and climate. Locality and climate are seldom taken into sufficient account, either by nurserymen in giving directions along with the plants they send out, or by books written for the guidance of amateurs. As a matter of fact, climate and locality are two of the most important considerations in the treatment of Schizostylis, as will be shown; and what may be sauce for the northern goose is by no means sauce for the southern gander. The roots can be obtained at a fairly cheap rate from most nurserymen, and they should be bought in the early spring when they are in a dormant state. If the locality where it is to be grown is in a hot dry climate, where the summer begins in May, and rain is scarce throughout the summer months, then the roots should be planted in the most moist part of the garden. Not in the border, among other herbaceous plants, for, as it flowers in October and November, or even in December, it is not a plant that should be used to adorn gardens, but as a cut flower to decorate the house. A special place should be prepared for it. Nothing could be better than a trench, such a trench as is made for Celery, only without the walls on the side. Plenty of good manure should be dug into the soil, and abundance of water should be given throughout the summer months. The trenches should be short and near together, so that overhead protection can be given in the late autumn and early winter during heavy rain or snow.



AGAPANTHUS UMBELLATUS AS A TUB PLANT.

Occasional flowers will appear at almost any time during the summer, but the real crop of blossom begins in the dry warm locality about October. The brilliant scarlet of the bloom is a rarity for the season, and can hardly be overvalued. We have many white and yellow and purple and blue shades, but hardly a single scarlet hardy flower in October and November, with the exception of this little-known plant. As soon as the flower heads appear it is as well to have a light or two at hand in case of bad weather. The frames in most gardens are not in full use at this time, and therefore the lights from them can be utilised to protect the blooms from rain or snow. Rain washes the colour out, and snow breaks the flower stalk as well as the foliage. With a little care blooms can be obtained up till Christmas. As

detrimental as moisture. There is plenty of both naturally, and the climate must be "dodged," as it were. In such climates make no trench, give little manure, and no water. Merely plant the roots, a few together, about a foot apart in a level bed. These beds are best made just a trifle smaller than the glazed light that is intended to protect them. Stakes driven in at each corner will sustain the light, which should be firmly fastened to them whenever the weather becomes threatening. The gales of early winter are apt to play havoc with coverings that are not properly secured. The covering should be about 2 feet above the bed, but on no account close the sides. Not only does the want of air spoil the plants, but the colour of the flower will also be lowered in brilliancy. The protection should be merely a

head covering from lashing rain or driving sleet. For the latter a temporary protection on the side from which the gale comes is a useful shelter. In Ayrshire blooms have been obtained as late as the second week in January in a mild winter when the bed has been carefully protected from the snow and heavy rain.

A charming combination can be obtained for the decoration of the house if bulbs of *Gla-di-olus The Bride* be planted in May. These will begin to flower in October, and the pure white of this delightful bulbous flower is a delicious contrast to the flaming scarlet of the *Schizostylis*. The bulbs will not suffer, in a mild climate at any rate, if left in the ground; for the writer has experimented with them, and found that in the succeeding year they grew and flowered in June, just as if they had been allowed to grow in the ordinary way in the previous year. Nor was there any diminution in the number of extra bulbs formed, nor in the size of the flowers produced.

Some extremes of climate and locality have been taken to give an idea of the difference that should be observed in the treatment. Readers will understand that they must modify the treatment according to the peculiarities of their own county, should

they give the *Schizostylis* a trial. Years ago, when the writer first became acquainted with the *Schizostylis*, he carefully followed the directions for culture as recommended in this article for a dry climate. His garden was in the West of Scotland. Verily he had his reward in one sense, for his plants multiplied amazingly. But hardly a flower appeared, and he took the hint that Nature gave him.

It is worth remarking that it is a great mistake to plant the roots closely. They increase so rapidly in a genial locality that it is difficult to keep them from strangling each other. When a bed that had only been in existence for two years was lately lifted it was found that the whole of the ground was completely occupied by the roots, although the original clumps of about ten heads

each had been planted a foot apart. It remains to be said that the *Schizostylis* is an excellent pot plant. If a clump is carefully lifted in August and potted with the usual precautions, it will bloom, in the cool greenhouse, almost continuously throughout the winter. In selecting a suitable clump, the heads that are going to produce bloom can easily be recognised by their thicker base. E. P. F.

WHITE PINKS.

THERE is no more welcome flower throughout the year than the deliciously sweet white Pink. Though it is in most gardens, it is not nearly enough used. Because it is a useful border plant is no reason why it should not be also in the rock garden or rock wall, where it is absolutely in place. In rocky rifts or crowning stony masses, or nestling at the rock foot, its neat tufts are always delightful, while its sun-baked fragrance, here and elsewhere, is one of the many charms of early June. No flowering plant is better as a garden edging and it should not be forgotten how excellent are its tufts of foliage in winter, for then does it appear to be in perfection.

The other Pink shown in the illustration is a seedling raised by an amateur, and, unfortunately, lost during a change of gardens. But as we have heard of just such a Pink occurring elsewhere, it is probable that it may come again. It was stout of stem and thick of petal, more like a little *Carnation*, and bloomed just after the white Pink.

THE ROSE GARDEN.

ROSE ANALYSIS 1895-1901.

ROSE lovers, and more particularly if they be also Rose exhibitors, are very much indebted to Mr. Edward Mawley, the hon. secretary of the National Rose Society, for the trouble he always takes year by year to arrive at exactly what particular Roses produce the best exhibition blooms. The means that he has adopted to arrive at this often enquired for information are best explained in his own words:—

"Since 1886 the name of every Rose in all the prize stands at the National Rose Society's metropolitan exhibition has been taken down, and the results afterwards tabulated. The average number of blooms thus dealt with annually has been about 1,800. In the complete table for the whole sixteen years can be found the number of times any variety was staged at all or any of those sixteen exhibitions. This table is often of great service for reference, but in the present analysis the positions of the different varieties which will allow of this being done—and they form more than 80 per cent. of the varieties appearing in the table of Hybrid Perpetuals and Hybrid Teas, and that of Teas and Noisettes—are made dependent upon their average records for the last eight years only, it having been found in practice that a period of seven or eight years gives the most trustworthy and comparable results."

The analysis follows the lines of the schedule—that is to say, there is a table for the Hybrid Perpetuals and the Hybrid Teas, and another table for the Teas and Noisettes. Taking them in this order I will deal with the Hybrid Perpetual and Hybrid Tea first.

I propose giving only a portion of this table, namely, the first twenty-five names that appear thereon. If any of your readers desire to see the whole table of sixty-six varieties, showing their relative merit from the point of view of the production of show blooms and to read Mr. Mawley's most interesting comments and his article generally, I would refer them to the *Journal of Horticulture* of October 31 last, in which paper it appeared, and from which these extracts have been taken with the permission of Mr. Mawley.



THE COMMON WHITE PINK AND A SMOOTH-EDGED WHITE PINK RAISED BY AN AMATEUR.

the season advances it is well to gather the flower stalks when one or two only of the individual blossoms are out. It begins to flower at the bottom, and after being gathered others will continue to open up the stalk for several days, gradually becoming lighter in colour, according to the length of time it is kept in water.

In damp climates, such as the West of England and Scotland, where the impact of the gulf stream upon the coast so greatly modifies the severity of the winter, it should be grown in the driest corners of the garden, otherwise an immense amount of root and foliage will be produced and hardly any flowers. Not only should it be planted in the driest, but the sunniest corner in the garden in the West of Scotland, so as to enable it to produce a good crop of bloom. Shade in such a locality is as

HYBRID PERPETUALS AND HYBRID TEAS.									
Position in Analysis.	Number of Times Shown.	Shown in 1901 in Proportion to the Average.	Name.	Date of Introduction.	Raiser's or Introducer's Name.	Colour.			
1	47.6	45	Mrs. John Laing	1887	Bennett	Rosy pink			
*2	43.0	43	Bessie Brown (H.T.)	1899	A. Dickson and Sons	Creamy white			
3	40.4	43	Ulrich Brunner	1881	Levet	Cherry red			
4	36.0	33	Caroline Testout (H.T.)	1890	Pernet and Ducher	Light salmon pink			
5	33.5	25	Mrs. W. J. Grant (H.T.)	1895	A. Dickson and Sons	Bright rosy pink			
6	32.4	31	A. K. Williams	1877	Schwartz	Bright carmine red			
7	32.4	46	Her Majesty	1885	Bennett	Pale rose			
8	32.0	22	Mrs. R. G. Sharman-Crawford	1894	A. Dickson and Sons	Clear rosy pink			
9	31.7	21	Marquise Litta (H.T.)	1893	Pernet and Ducher	Carmine rose, brighter centre			
10	31.5	35	Kaiserin Augusta Victoria (H.T.)	1891	Lambert and Reiter	Cream, shaded lemon			
11	28.8	29	La France (H.T.)	1867	Guillot	Silvery rose, shaded lilac			
12	28.0	27	Gustave Piganeau	1889	Pernet and Ducher	Shaded carmine			
13	26.9	15	Suzanne M. Rodocanachi	1883	Lévéque	Glowing rose			
14	26.0	22	Captain Hayward	1893	Bennett	Scarlet crimson			
15	24.6	23	Mme. Gabriel Luizet	1877	Liabaud	Light silvery pink			
16	22.3	23	Alfred Colomb	1865	Lacharme	Bright carmine red			
17	21.9	15	Marie Baumann	1863	Baumann	Soft carmine red			
18	21.6	25	Marchioness of Londonderry	1893	A. Dickson and Sons	Ivory white			
19	21.4	23	Horace Vernet	1866	Guillot	Scarlet crimson, dark shaded			
20	18.0	17	Earl of Dufferin	1887	A. Dickson and Sons	Dark crimson, shaded maroon			
21	17.3	14	François Michelon	1871	Levet	Deep rose, reverse silvery			
22	17.3	9	Helen Keller	1895	A. Dickson and Sons	Rosy cerise			
23	16.9	18	Prince Arthur	1875	B. R. Cant	Bright crimson			
24	16.6	18	Dupuy Jamin	1868	Jamin	Bright cerise			
25	16.5	14	Charles Lefebvre	1861	Lacharme	Purplish crimson			

* A new variety, whose position is dependent on the record for the 1901 show only.

The above result contains a good many surprises, notably, perhaps, from the point of view of well known names that find no place (oamely, omissions rather than contents). One would naturally expect Mrs. John Laing to head the list, but Mr. Mawley draws attention to the probability, amounting almost to a certainty, that in a few years time, if not next year, it will be deposed from its proud position, that it has held practically unchallenged for nine consecutive years, for "in the present analysis the splendid record of a new H.T., Bessie Brown, makes it highly probable that that variety will shortly take its place. This year, Bessie Brown, although only now beginning to be grown by many exhibitors, was to be met with in only two fewer stands than Mrs. John Laing, which has been in general cultivation for the last ten years."

For a new variety introduced in 1899, which for the first time appears in the table in 1901, should then occupy at a bound the second place is absolutely a record, and one on which the raisers, Messrs. Dickson and Sons, are heartily to be congratulated. While referring to them one may note that for "the third year in succession all the Roses in the table of H.P.'s and H.T.'s which are five or less years old—that is to say, the newer Roses—are of British origin, and raised exclusively by this firm, Messrs. A. Dickson and Sons, of Newtownards, Ireland," a fine and unique record.

Among established varieties which were staged less frequently last year at the Temple than at any other previous metropolitan exhibition of the National Rose Society since they were first generally shown by exhibitors, are such well known varieties as "Caroline Testout, Mrs. W. J. Grant, Mrs. R. G. Sharman-Crawford, Marquise Litta, Suzanne M. Rodocanachi, Captain Hayward, and Helen Keller," while Marie Baumann has only once before appeared on as few stands. This no doubt in some cases is largely accounted for by the nature of the season.

"On the other hand, Her Majesty (very appropriately, considering the visit paid to the show last year by the society's patroness, Her Majesty the Queen) was staged no fewer than forty-six times, or a greater number than any other Rose in the exhibition, except Maman Cochet. It was also a record year for Kaiserin Augusta Victoria and Comte de Raimbaud. Marchioness of Londonderry and Duke of Teck were also exceptionally well represented. That the past Rose season was an unusually early one is shown by the fact that such late flowering varieties as Her Majesty and Marchioness of Londonderry were so numerously staged."

Mr. Mawley concludes his remarks on this section of the analysis as follows:—

"The progress that is being made in this section

is shown in two ways: (1) By the smaller records in recent years made by such well established favourites as Marie Baumann, Charles Lefebvre, Etienne Levet, and Merveille de Lyon; (2) By the high positions taken by the comparatively new varieties. For instance, the average age of the first twelve Roses in the table five years ago was twenty-four years, whereas in the present analysis the leading twelve sorts only average fourteen years. Another striking feature is the prominent position taken by that comparatively new race, the Hybrid Teas, six of the first twelve Roses on the list belonging to that now popular section. Taking the Hybrid Perpetuals alone, the advance is by no means as encouraging. This is, I think, to be regretted, for after all there are no crimson Roses in any other section which can for a moment be placed on the same level with such grand creations as A. K. Williams, Suzanne M. Rodocanachi, Alfred Colomb, Horace Vernet, Charles Lefebvre, Victor Hugo, and the like. Then, again, such pinks as Mrs. John Laing, Mrs. R. G. Sharman-Crawford, and Mme. Gabriel Luizet are still unsurpassed in their different shades."

Turning now to the table of Teas and Noisettes, of which I only here give the first twenty-five names (the whole table contains thirty-two varieties), it may be mentioned in passing that the hot and dry weather of the past summer, which proved so trying to many of the H.P.'s and H.T.'s, appeared to be rather welcomed than otherwise by the Teas.

TEAS AND NOISETTES.									
Position in Analysis.	Number of Times Shown.	Shown in 1901 in Proportion to the Average.	Name.	Date of Introduction.	Raiser's or Introducer's Name.	Colour.			
1	47.7	61	Maman Cochet	1893	Cochet	Deep flesh, suffused light rose			
*2	43.0	43	White Maman Cochet	1897	Cook	White, tinged lemon			
3	39.5	39	The Bride	1885	May	White, tinged lemon			
4	38.5	33	Catherine Mermet	1869	Guillot	Light rosy flesh			
5	33.8	40	Comtesse de Nadailac	1871	Guillot	Peach, shaded apricot			
6	32.9	40	Innocente Pirola	1878	Mme. Ducher	Creamy white			
7	28.9	22	Souvenir de S. A. Prince	1889	Prince	Pure white			
8	28.5	31	Mme. Cusin	1881	Guillot	Violet rose, yellow base			
9	28.3	24	Bridesmaid	1893	May	Bright pink			
10	26.5	20	Mme. Hoste	1887	Guillot	Pale lemon yellow			
11	25.5	27	Muriel Grahame	1896	A. Dickson and Sons	Pale cream, flushed rose			
12	24.9	18	Souvenir d'un Ami	1846	Belot-Defougere	Pale rose			
13	23.4	23	Souvenir d'Elise Vardon	1854	Marest	Cream, tinted rose			
14	22.8	16	Mme. de Watteville	1883	Guillot	Cream, bordered rose			
*15	22.0	22	Mrs. Edward Mawley	1890	A. Dickson and Sons	Pink, tinted carmine			
16	20.6	25	Maréchal Niel (N.)	1864	Praedel	Deep bright golden yellow			
17	20.3	18	Ernest Metz	1888	Guillot	Salmon, tinted rose			
18	20.2	18	Medea	1891	W. Paul and Sons	Lemon yellow			
19	19.8	6	Marie Van Houtte	1871	Ducher	Lemon yellow, edged rose			
20	16.4	10	Niphetos	1844	Bougere	White			
21	15.4	5	Honourable Edith Gifford	1882	Guillot	White, centre flesh			
22	15.3	15	Caroline Kuster (N.)	1872	Pernet	Lemon yellow			
23	13.0	12	Cleopatra	1889	Bennett	Creamy flesh, shaded rose			
24	12.9	12	Princess of Wales	1882	Bennett	Rosy yellow			
25	12.5	0	Anna Olivier	1872	Ducher	Pale buff, flushed			

* Two new varieties, whose position is dependent on the record for the 1901 show only.

At all events, the quality of the latter at the Temple Rose show was much in advance of that shown in the classes devoted more particularly to Hybrid Perpetuals and Hybrid Teas. "In glancing at the table it will be noticed that Catherine Mermet and its white sport, The Bride, no longer head the list, and that the places they have occupied for so many years past have been taken by Maman Cochet and its white sport, White Maman Cochet. At the last exhibition The Bride was staged an average number of times, but not so Catherine Mermet, which only once before in the last fifteen years has been as poorly represented. Among other sorts which were to be found in an exceptionally small number of stands last year were Souvenir de S. A. Prince, Souvenir d'un Ami, Marie Van Houtte, Hon. Edith Gifford, and Anna Olivier, which have never before been as seldom staged, while Mme. Hoste and Niphetos have only once before appeared in as few boxes. On the other hand, Comtesse de Nadailac and Innocente Pirola have seldom before in the same fifteen years been as numerously represented."

"The present year (1901) has been described as a 'Maman Cochet year.' Be that as it may, the record of that splendid variety at the last metropolitan exhibition of the National Rose Society has never before been even approached by any other Rose whatever. That any variety should appear in more than sixty different stands is a feat I should have regarded only last year as almost an impossibility. Considering the ages of the two varieties, Maman Cochet and White Maman Cochet—the one eight and the other four years old—the performance of the latter is equally, if not still more, surprising. That any new Tea should four years after its introduction succeed in rising to the second place on the list, as White Maman Cochet did last year, appears almost incredible. With these two varieties we enter upon a new type of Tea Rose, the want of which has evidently been long felt—a type in which, not only is the plant more vigorous, but the flowers larger than in the ordinary run of exhibition Roses in this section.

"The newer Teas—those which are six or less years old—next demand our attention. In the present analysis, although only three in number, they are all of exceptional merit. Muriel Grahame, a pale cream member of the Catherine Mermet family, was sent out in 1896, and since last year has risen from No. 17 to No. 11. White Maman Cochet is a superb white version of Maman Cochet, and was first distributed in 1897. Last year it stood at No. 23, and now occupies the second place in the table, and it requires no great foresight to predict that it will shortly be at the top of the list. The other new variety is Mrs. Edward Mawley, which both in form and tint is quite distinct from all the other pink Tea Roses. Since last year it has risen from No. 23 to

No. 15, and when more generally grown is certain shortly to occupy a still higher position."

This concludes the extracts from Mr. Mawley's article. In addition to the above tables, however, he gives us an analysis (for the first time) of the garden and decorative Roses shown at the Temple, which I hope to allude to at some future date.

Taking the fifty Roses that appear in the above lists, one notices that a new Rose has to be something very much above the average to be found worthy of exhibition: the standard is a very high one, so much so that notwithstanding the numbers of new Roses that are introduced every year when they are put to the test of this analysis what do we find? (Take the last six years, that is, from 1895 to 1901 both inclusive.)

Among the fifty mentioned there is not a single new H.P., only one H.T., Bessie Brown, three Teas, White Maman Cochet, Muriel Grahame, and Mrs. Edward Mawley, and there are no Noisettes—a total of five, not a new Rose per annum. (It is only right to state that, taking the complete analysis, these figures would not be strictly accurate, though my remarks would not be affected by so doing.)

It might be advanced that six years is no time for a good Rose to come to the front. I would ask in reply when were Mrs. Edward Mawley and Bessie Brown introduced?

The long-felt want amongst exhibition Roses is the introduction of one or two new dark reds or crimson of the colour of, say, Victor Hugo, the growth of Mrs. John Laing, and the form of Marquise Litta.

How much longer shall we have to wait for them?

Brantwood, S.W. HERBERT E. MOLYNEUX.

GARDENING OF THE WEEK.

FRUIT GARDEN.

STRAWBERRIES IN POTS.

QUANTITIES of these should, as they are required, be top-dressed, and placed near the glass, upon thin turves in a pit or house, with a night temperature of 50°, and 5° or so more by day, with a moderately humid atmosphere. This is best promoted by a bed of fermenting leaves placed beneath the shelves, and, provided the stage is not a fixture, it can be replaced later by a temporary trellis for supporting mid-season or late crops of Melons, for which the leaves will afford the necessary bottom heat. The plants should be sprayed overhead with tepid soft water early in the afternoon on fine days, and at no time allowed to suffer from want of water, and be occasionally given weak liquid manure. Earlier plants in blossom should have a comparatively dry atmosphere, a night temperature of about 55°, with the usual rise by sun heat, while a moderate motion in the atmosphere must be maintained, and fertilisation assisted by distributing the pollen with a camel hair brush on favourable occasions when it is perfectly dry. Once sufficient fruit is properly set for the crop the late flowers should be carefully removed, the fruit supported and fully exposed to the sun, and more free treatment with respect both to heat and liquid manure, or top-dressings of suitable artificial manures used. Diluted liquids from stables or cow byres are highly valuable for this purpose, but for obvious reasons they must be kept from coming into contact with the fruit.

PEACHES AND NECTARINES.

Early houses that were properly started will have made good progress, and to prevent an early attack of aphids the trees should be fumigated immediately before flowering. During the flowering stage a night temperature of 50° to 55°, with a rise of 10° or 15° by sun heat will be suitable, together with a continuous mild circulation of air and a moderate amount of atmospheric moisture derived by damping the floors early in the afternoon on fine days. These are indispensable aids to

fertilisation, and should be assisted by the pollen being distributed when it is dry by the help of a lightly used soft brush. As soon as the flowering period is past resume overhead syringing, but sufficiently early in the afternoon to enable the trees to become quite dry by night. Assuming that successional houses have received correct resting treatment they should be closed, and started into growth as required, in a steady night temperature of 45° to 50°, and a rise of a few degrees by day. Syringe the trees daily in favourable weather, but avoid keeping them very wet. Admit air early in order to regulate the temperature on bright days, and promote safe progress by early closing.

FIGS.

A house furnished with permanent trees may now be started to succeed trees in pots. Trees of this description are most fruitful and more easily managed when their roots are confined to small borders, otherwise it is necessary to periodically root-prune them, and this is best done in the autumn. The house and trees having been cleansed, the borders should be top-dressed with loam freely mixed with crushed old mortar. A satisfactory way of giving Figs a start is to make a sweet and mild hot-bed of tree leaves and stable manure under the trees. This promotes a desirable humid atmosphere, and being aided by gentle warmth from the pipes, together with a discreet use of the syringe, foliage and fruit are readily developed. Carefully ventilate the structure to prevent weak growth. When external conditions are favourable disband early superfluous shoots, and after growth becomes active keep the borders well supplied with tepid water. Allow ample space for the leaves to fully develop and stop side shoots beyond the fifth or sixth leaf, with a view to getting a good second crop of fruit, which, with some varieties, notably Negro Largo, is often better than the first.

THOMAS COOMBER.

The Hendre Gardens, Monmouth.

INDOOR GARDEN.

ZONAL PELARGONIUMS.

PLANTS having finished flowering should be cut down to three or four eyes. Place them in a heated pit, and keep rather dry until they start growing. These will make a showy mixed bed in the flower garden in summer. Select the strongest and most vigorous growths as cuttings for propagation. Insert them singly in 3-inch pots filled with a mixture of loam, leaf-soil, and sand; water and place in a temperature of about 50°, where they will soon form roots. The plants that were placed in their flowering pots in the autumn may now be brought into the house. A light airy house, with a warm and rather dry atmosphere, is the structure zonals flourish in. Those in 3-inch pots may be potted on into 4½-inch or 6-inch pots, well drained, using a compost of fibrous loam, leaf-mould, wood ash, and sand, adding bone-meal, and potting rather firmly. Zonals do best in small pots, and require plenty of manure water when they become pot-bound. Young plants should be stopped several times to encourage a compact habit, always pinching to a bud that will produce a shoot.

PROPAGATING TREE CARNATIONS.

Select the side shoots, insert them in large 3-inch pots, five or six in a pot, using a fine, light, sandy soil. Plunge in a bottom heat of about 75° or 80° in a propagating frame. Dracaenas that have lost their bottom leaves should be cut down, inserting the tops in large 3-inch pots; the stems may be cut into lengths, 2 inches or 3 inches long, and placed in pans filled with sand and cocoanut fibre. Dieffenbachias may be treated in the same way. Panax, Ficus, Pandanus, &c., may be taken and placed in the same propagating frame as above.

HARDY AND HALF-HARDY ANNUALS FOR POTS.

Gypsophila elegans alba is a useful pot plant for conservatory or house decoration; it is also useful in a cut state, and can be had in flower every month of the year by a succession of sowings. Sow the seed thinly in 4½-inch pots, using a light

porous compost. Thin out the seedlings, leaving five in a pot, and always keep them in a light, cool position. Stake and train as necessary.

SCHIZANTHUS.

These are very pretty and make good pot plants, and are very useful for vases in a cut state. The varieties of *S. pinnatus* and *retusus* all deserve to be grown in pots.

COREOPSIS.

The tinctoria and the dwarf varieties are also valuable in pots.

SWEET PEAS.

The dwarf Cupid sorts are all useful for house decoration, especially where baskets have to be filled with plants. They are also useful for bordering the stages of flowering houses, if one seed is sown in a 3-inch pot, and the plant is allowed to hang down. The culture advised for Gypsophila will suit all the above.

MIGNONETTE

may be sown in 4½-inch pots, using a compost of fibrous loam, leaf-mould, sand, and cow manure, adding a little lime rubble, placing the pots in a warm pit.

SEEDS.

The following may be sown in pots and pans, filled with a finely-sifted mixture of loam, leaf-mould, and sand:—*Clerodendron fallax*, *Solanum hybrids*, *Streptocarpus hybrid var.*, *Saintpaulia ionantha*, *Begonias*, and *Grevillea robusta*.

BOUVARDIAS

that have done flowering and had a rest and hardened off should be cut back, placed in a temperature of 60° or 65°, and freely syringed, which will cause them to break, and produce a good supply of cuttings. If not already done, loam, leaf-mould, peat, &c., for potting should be put under cover, so that it may be in a suitable condition for use. Flower-pots should be washed, sized, and stacked away ready for use. Crocks should be washed, and sized by passing through three different sized sieves. JOHN FLEMING.

Wexham Park Gardens, Slough.

THE FLOWER GARDEN.

ANNUALS.

OUR annual flower garden is so-called because it is mainly devoted to hardy and half-hardy annuals. It should be annual in every sense of the word, and quite a contrast to the formal French or Dutch gardens, which are always permanent features in most places, because of their containing so much topiary work and statuary. In the annual flower garden the walks should be turf, with no permanent trees or edgings, thereby facilitating the changing of its design and formation every year to a greater or lesser extent without incurring much labour or expense. By thus altering the details of this garden monotony is avoided, and the interest and pleasure renewed and increased annually.

The remodelling of the outline, or the alteration of beds and borders, is suitable work for the present moment, and should be got on with at once, not only to give time for the soil to mellow and settle by the planting and sowing season, but also to have it off one's hands before spring work is in full swing. In the formation or the altering of such a garden a simple design is essential—intricate geometrical designed plans are entirely out of place.

The beds and borders should be made with the knowledge of what is going to be their contents, and the requirements of the latter studied both as to size and shape rather than to the carrying out of an elaborately conceived plan, which, though it may happily appeal to one when on paper, is not adapted for the plants desired. Small beds 3 feet or 4 feet through are the best for the dwarfier annuals, especially when each bed is devoted entirely to the one kind, and larger beds for larger subjects, so that they be not cramped or their individual beauty impaired.

Good long wide borders might be made, in which scope be given for the exercise of good taste in bringing together annuals of different colours, shades of colour, and growth.

Beds for Sweet Peas, either circular or lengthwise, should be remembered, while a border should be formed to contain any unknown plant on trial or novelties, so that one might get acquainted with their worth and usefulness for another year.

Not only is the present a good time to make alterations in the annual garden, but also to consider displays and effects for the coming season, and the opportunity should be taken to inspect the collection of seeds saved last autumn, and note the requirements for proposed new combinations, so that, if necessary, seeds may be ordered without loss of time. There is a wide choice of beautiful hardy and half-hardy annuals to select from, so that it is not difficult to make a feature of a few particular genera every year. The

PROPAGATION OF THE PENTSTEMON,

which personally I prefer to treat as an annual by sowing every year, can be done now. Of course, if one has a particular variety which it is desired to perpetuate, then the safest method is to take cuttings in the autumn. A few plants propagated by cuttings in conjunction with seedlings are an advantage, as the former come into bloom a little sooner than those raised from seed, so that the season of this fine and useful flower is lengthened. Although it is not possible to get seed of particular varieties true, yet when good strains of particular colours can be obtained there is not much to complain of, and the trouble of housing and attending to them during the winter months is obviated. Sow thinly in boxes of light soil, and place in a gentle heat, either in a propagating house or on the hot-water pipes of a vinery that has just been started into growth. They soon germinate, and the seedlings, when large enough, should be pricked off into fresh boxes, giving plenty of space between the individual plants to allow full development. When the plants become stocky in growth the first favourable occasion during mild weather should be taken advantage of to remove them to cool frames, where they can remain until the beginning of April, when they can be planted out into their flowering quarters.

HUGH A. PETTIGREW.

The Gardens, St. Fagan's Castle.

THE KITCHEN GARDEN.

PEAS.

THE old plan of sowing Peas in the open ground during the autumn for the earliest supplies is now little practised, as more satisfactory results are obtained by raising them under glass in early spring and planting them out when they have been thoroughly hardened off on well-prepared ground. People have their own way of bringing them forward by starting them in pots, turves, narrow wooden troughs, which can be taken to pieces, and shallow wooden boxes, which are all good in their way: but I much prefer the latter plan, being the simplest and at the same time taking up much less room, a matter of no small importance in many places during spring. If carefully handled when planting no perceptible check will be given. We always treat our first three sowings in this way, as by so doing we have them under control from the ravages of vermin such as rats, mice, birds, and slugs, and they are easily protected during severe weather. If staked and netted at the same time the crop is practically insured.

The first sowing should be made at once in cold frames or cool houses. Vast strides have been made in improving Peas generally during the last few years, many of the best wrinkled kinds being almost as early as the old white seeded varieties, consequently few of the latter should be grown where good Peas are valued as they are in many places.

Carter's Early Morn, no doubt selected from Gradus, is one of the very best we have grown, and has never failed to produce splendid crops almost as early as William I., probably the best of the round seeded kinds.

BROAD BEANS

should be treated precisely the same, and I venture to say much better crops are produced in this way than when sown in the open ground. The large

long podded varieties are quite as early and far better in quality than the old Magazan.

SOWING OTHER VEGETABLES.

Lettuce, both Cos and Cabbage, Cauliflowers of sorts, Brussels Sprouts, and Red Cabbage should be sown in small quantities in boxes and raised under glass. Prick out into other boxes immediately the young seedlings can be handled conveniently. Avoid forcing, as the more gradual the growth made now the more successful will the plants finish in their permanent quarters.

Cauliflowers, Lettuce, Parsley, and similar kinds of vegetables which are being wintered in cold frames should have abundance of air whenever the weather is at all favourable. Pick over and remove all decaying leaves and rubbish occasionally, and stir up the soil between the plants with a pointed stick.

POTATOES.

The earliest plantations will need careful attention at this season in airing and earthing up, for if allowed to become drawn poor returns will be the result. Admit air whenever possible, but in the opposite direction to which the wind is

espalier in the open ground, and is best worked on the Quince stock. This Pear is in season from Christmas to March. OWEN THOMAS.

MISCELLANEOUS.

FRUIT AND VEGETABLE DRYING.

WE have received from Mr. James Udale his report on experiments in fruit and vegetable drying at the Experimental Garden, Droitwich, as presented to the Agricultural Sub-Committee of the Worcestershire County Council. Mr. Udale's remarks are well worth studying, and we extract some of the more important particulars:—

"I have, during the months of September and October of the current year (1901), carried out certain experiments in drying fruit, vegetables, and



PEAR BEURRE D'ANJOU (SLIGHTLY REDUCED).

(From a fruit photographed in the Royal Horticultural Society's Gardens, Chiswick.)

blowing. Warm the soil for earthing up before using. Make further plantings about once every fortnight for successional supplies. All tubers intended for outside planting should be laid out in shallow trays and placed in the light so that the young growth made is stont and short jointed.

E. BECKETT.

Aldenham House Gardens, Elstree, Herts.

HARDY FRUITS IN SEASON.

PEAR BEURRE D'ANJOU.

THIS is a useful, hardy, prolific, and handsome fruit, and is well worthy of inclusion in all good collections of winter Pears. It grows to a large size, is even and regular in its outline, which is roundish. The skin is a beautiful yellow, tinged with green and studded thickly with tiny brown, green, and crimson dots. Its flesh is white, melting, and juicy, of a very sweet and delicious flavour, with a distinct perfume. The tree is hardy and a robust grower, and succeeds well as a pyramid or

herbs, by means of a Number O (Dr. Ryder's Patent) Invicta Evaporator, supplied by Messrs. Lumley and Co., the Minories, London, E.C. Twenty trays were supplied with it, and the catalogue price is £11 10s., plus an advance of 10 per cent. This evaporator is, in my opinion, too small for commercial purposes; because it requires as much attention—and in respect to the regulation of temperature more care—as one with three or four times its capacity. It is also very wasteful with fuel, because the evaporator consists of only one short flue or air-chamber, through which the hot air rushes immediately into the atmosphere and is lost. For those two reasons the cost of labour and fuel is unnecessarily great, and the cost of the dried article much higher than it would be with an evaporator of larger capacity. In conducting the experiments I sought to ascertain: (1) The best varieties for drying for commercial purposes; (2) the average time required to dry the respective varieties at known average temperatures; (3) the average loss in weight between the undried and the dried article; (4) the average consumption of fuel during twenty-four hours of continuous work; and (5) the capacity of the

evaporator in drying a given quantity of Damsons in the shortest space of time.

PLUMS.

Of the twelve varieties of Plums dried, the following gave the best results in regard to the weight of the dried product: Czar gave 33 per cent. of dried fruit, White Perdrigon 27, Victoria 25, Monarch 25, Prince Englebert 25, Red Magnum Bonum 22, Cox's Emperor 20, July Green Gage 20, and Pershore 19. The best varieties in appearance are: Monarch, Prince Englebert, Czar, Victoria, and White Perdrigon, in the order named. These are followed by Red Magnum Bonum, Cox's Emperor, and Pershore.

The average time and temperature required by the better varieties to dry was as follows: Monarch, 200°-230° Fahr., 15 hours; Prince Englebert, 160°-200°, 14; Czar, 180°-210°, 12; White Perdrigon, 190°-220°, 16; Victoria, 190°-220°, 18; Red Magnum Bonum, 180°-200°, 12; Cox's Emperor, 220°-240°, 16; Pershore, 160°-220°, 16. The two varieties of Damsons dried nicely, and kept their colour and flavour.

Farleigh Prolific yielded 33 per cent. of dried fruit; Shropshire Damson 25.

The average time required by the Damsons for drying was six hours for the Shropshire variety, and seven hours for Farleigh Prolific, the temperature in each case being 160°-200° Fahr.

The surplus Plums and Damsons have been sold wholesale and realised the following prices: Best Victoria and best Perdrigon, 6d. per lb.; second Victoria and second Perdrigon, 4½d.; Pershore, 4½d.; Damsons, 4½d.

APPLES AND PEARS.

Experiments were made in drying Apples and Pears: the former whole and in slices, the latter peeled and cored and cut in halves.

Four varieties of Apples were dried whole, viz., Cellini, New Hawthornden, Lane's Prince Albert, and Red Hawthornden. The first were dried as gathered from the tree; the three latter were small fruit only, or third size. The results were as follows: 8lb. Fresh fruit of Cellini gave 1lb. 12oz. dried product; 10lb. New Hawthornden, 2lb. 8oz.; 10lb. Lane's Prince Albert, 2lb. 4oz.; 12lb. Red Hawthornden, 4lb.

The small fruit dried in from seven to twelve hours; the larger fruit of Cellini required about eighteen hours. Those dried in seven hours were subjected to a temperature of 220°-250° Fahr.; the others were in a temperature of 180°-200° Fahr.

APPLE SLICES.

Eight varieties of Apples were peeled, cored and sliced. They were—Cellini, Bramley's Seedling, 'Ecklinville, *Ringer, Lord Suffield, Lord Grosvenor, *Lane's Prince Albert, and *New Hawthornden. Those marked with an asterisk were small Apples only: the others were large and small as gathered from the trees.

The best results were obtained from Bramley's Seedling, Lord Grosvenor, Lord Suffield, and Ringer in their order of merit; followed in the same order by Cellini, New Hawthornden, Ecklinville, and Lane's Prince Albert. The average result obtained from the eight varieties gave 15oz. of dried product from 11lb. of fresh fruit. The weight of the dried article is misleading, because, although the above is the actual weight when the slices, &c. are removed from the evaporator, the dried product absorbs atmospheric moisture, and in a few days the weight is considerably increased; but I have not taken note of the actual increase, much depending upon atmospheric conditions.

PEARS.

Two varieties of Pears were tried—Williams' Bon Chrétien and Beurré d'Amanlis. They were peeled by the peeling machine, and cut in halves and cored by hand. They dried in nine hours in a temperature of 200°-240°. Ten pounds of fresh Beurré d'Amanlis gave 2lb. of dried product; 20lb. Williams' Bon Chrétien, 3lb. 10oz.

MORELLO CHERRIES.

Six pounds of Cherries were dried and gave 1lb. 14oz. of dried fruit. They dried in twelve hours in a temperature of 160°-200°.

The lessons learned from the experiments are: 1. Ripe fruit dries more quickly than unripe fruit; the latter being several hours longer in the process, and therefore more costly to produce. 2. Unripe fruit loses a larger percentage in weight during the drying process, and is not a good colour for its kind or variety when dried. 3. Large fruit of the respective kind or variety produces the finest dried article of the same variety or kind. 4. Small specimens of the same variety of fruit or vegetables dry more quickly than larger specimens. 5. Stone fruit, such as Plums, Cherries, &c., should be exposed to a low temperature at first for several hours, and have the temperature gradually increased as evaporation proceeds. 6. Apples and vegetables may be exposed at once to a moderately high temperature, and finished in a lower temperature. 7. Stone fruit should be placed on the trays with the stalk ends uppermost. 8. Fruit of equal size should be placed upon the same tray, and not small mixed with large fruit. 9. Apples and Pears should be immersed in a weak solution of salt and water immediately after peeling; one ounce of salt to three quarts of water; if left exposed to the air after being peeled they quickly go discoloured.

GENERAL REMARKS.

I think there is a prospect of Plum-drying becoming an industry in this country, and that in years of great abundance of fruit and of very low, or no prices, the fruit may be dried and sold wholesale at remunerative prices. Clearly we have varieties which are at once prolific and suitable for drying, notably Monarch, Czar, Prince Englebert, White Perdrigon, and Victoria. I think it is tolerably safe to say that each of the varieties mentioned is worth, for drying purposes, from 3s. per bushel upwards. The operation of preparing and drying fruit and vegetables is soon learnt by any intelligent man or woman; and I think it is labour well adapted for women. If 5s. and upwards can be obtained per cwt. for good Apples, I think it will be best to sell them in the undried state. Perhaps small Apples will pay for drying; and they might also be remunerative for making into jelly. Although we have made jelly from the peelings and corings of Apples and Pears—that "nothing be wasted"—I fear that the balance would be on the wrong side the ledger if a strict debtor and creditor account had been kept.

We have demonstrated that all kinds of vegetables may be dried successfully—from pot herbs to Cauliflowers—but we have not tested them sufficiently extensively to be able to say if or how far they could be dried with commercial success.

I have tested the eating qualities of the second grade Victoria Plums (I thought if the second grade were good the first grade would be better) after gentle stewing for thirty minutes, with the addition of a little lump sugar, and I was more than satisfied with their quality. They were clean and delicious, and superior to any French Plums I have bought at any time at 6d. per lb. retail. I selected the Victoria for the test, because it has been condemned as unsuitable for drying by a certain writer for the horticultural Press, and because I know the better varieties can take care of themselves.

Although it may be admitted that—so far as our experiments have gone—the best varieties for drying at home are Monarch, Prince Englebert, and Czar, and that they now realise remunerative prices when sold undried; we cannot be certain that they will be so remunerative five years hence, or even three years hence.

Monarch and Czar are being extensively planted, and we may have such abundant supplies of those, and of others as good, in the near future, that the prices realised for them may fall to a comparatively unremunerative amount in the fresh state; then the grower may dry them and profit thereby.

Samples of French and Californian dried Plums have been bought at 10d. and 6d. per lb. respectively for comparison with the home grown and home dried Plums, and the following are the results: Competent judges are agreed that in appearance the Monarch surpasses the French at 10d. per lb.; Prince Englebert at 6d.; Victoria, White Perdrigon, and Czar surpasses the Cali-

fornian at 6d., and that their quality in order of merit when stewed gently for thirty minutes is as follows: 1, White Perdrigon; 2, Victoria; 3, French at 10d. per lb.; 4, Californian at 6d. per lb.; 5, French at 6d. per lb.; 6, Pershore.

CACTI.

I WAS pleased to see in THE GARDEN some weeks ago somebody saying a good word for what one might call (in a sort of scholastic sense) the higher Cacti. These are among my earliest loves, when from the late forties to the early sixties my father had a fine collection. They were lost for a time when I could not be enough at home to see to them. I rejoice to have got together a goodly number (some 250) of the most distinct in the groups of Echinocactus, Echinopsis, Echinocereus, Cereus, Pilocereus, Mamillaria, and a selection of the most distinguished of the Opuntia. Many of the Echino type, especially Echinopsis, have large and lovely flowers, but of only one night's duration, though they will make it two, if kept from daylight, and two and a half if cut and kept in a cupboard. I do not know of any that will last for a week. But for weeks throughout their season they will give a charming succession, more or less abundant, of their flowers of lovely tenderness of tints and textures.

It is a pity to overdraw a picture or overstate a case, and the true Cacti, if grown for their flowers' sake, will give indeed a bright but a brief and intermittent joy. But if grown for the charm's sake of their wondrous forms and simplicity of life they will be an exhaustless source of interest and delight.

Where, as in the Mamillaria group, the flowers are often small and not showy, the plants make up for this by pretty coronals of coral berries, which last a long time if there are no nice or small red ants about. In the Mamillaria section, as in M. elephantidens and others, the flowers are central and really of showy size.

F. D. HORNER.

CORRESPONDENCE.

(The Editors are not responsible for the opinions expressed by their correspondents.)

FIBRE ROOTS AND TAP ROOTS.

[TO THE EDITOR OF "THE GARDEN."]

SIR, — In your issue of December 21, "R. F. H." asks, "Do fibre roots and tap roots exercise different functions in feeding the tree?" By "fibre roots" your correspondent most likely refers to roots growing near the surface as distinguished from those that strike deeply into the subsoil. Has he traced the latter to their extremities, and does he find them without fibres eventually? Probably not. Is it not a question of environment? The surface roots find themselves in a medium containing abundant soluble plant food, and consequently, having no need to elongate, produce abundant fibres to absorb the nourishment so close to them. The roots growing more or less vertically soon find themselves in a region where the mineral plant food is insoluble, and all that is left for them to do is to pump up water with any nitrates it may contain. Now all living plants are composed mainly of water, and as all plant food obtained by the roots must be in solution, we may assume that the functions are the same in all roots, viz., absorption of liquid, but the result to the plant is very different—in one case the water absorbed is rich in food constituents, while in the other it is not.

Blossoms and fruit require something more than water to bring them to perfection, and the microscope reveals to us that next year's crop is practically stored up in embryo in the well-ripened buds matured this season, and in practice we find that by cutting off those roots which can supply little else than water we secure stronger surface roots, richer sap, and consequently more abundant crops

of fruit. "Poor food, poor work," is as true with plants as with animals.

With reference to the question of pruning newly planted fruit trees, many years of observation and experiment lead me to the conclusion that it is better to prune, for the simple reason that just at the time when the young trees are beginning to grow in the spring we often get five or six weeks' rainless weather with drying winds, and the young roots are unable to obtain sufficient moisture to supply the demands of an unpruned top.

By liberal thorough drenchings of water at the right time an unpruned tree is able to grow right away as well as a pruned one not watered. It is cheaper to prune the trees than to water them. With large trees the watering is absolutely necessary.

PRACTICE WITH SCIENCE.

BENTHAMIA FRAGIFERA.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—This beautiful flowering tree, which, on account of the crimson fruits that follow its blossoms, shares with *Arbutus Unedo* the title of Strawberry Tree, is described by "H." (page 344, vol. ix.) as being rarely met with in gardens. This is certainly not the case in southern Cornwall, where it is largely grown and planted out in woods as well as in the garden proper. There trees are to be found 40 feet and more in height, and numberless seedlings are annually raised, since the seeds scarcely ever fail to germinate. The *Benthamia*, which, as your correspondent notes, is now known as *Cornus capitata*, was introduced from Nepal in 1825, and is therefore too tender for any but the most favoured districts of the British Isles. It is seen to best advantage when growing in front of tall trees, whose verdant foliage throws into high relief its cloud of pale sulphur when covered in early summer with countless widespread blossoms. It is almost equally decorative in late autumn, when its fruits, some of them 1 inch in diameter, have assumed their crimson hue, but in many places these are cleared off by the birds as soon as they commence to change colour.

S. W. FITZHERBERT.

CARPENTERIA CALIFORNICA.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—Some months ago two notices of this lovely flowering shrub appeared in the columns of THE GARDEN. One gave proof that it possesses greater hardiness than it is generally credited with, for it is spoken of as having withstood 20° of frost in Oxfordshire without protection and as having come through the ordeal unscathed. I remember that in the hard winter of 1895 the late Rev. H. Ewbank's plant at Ryde was badly injured, but some specimens that I knew of in South Devon escaped damage. The largest example that I have seen is growing near the banks of the River Teign, and is about 8 feet in height and as much in diameter. It is a pretty picture when bearing its fragrant, white flowers with their golden anthers, which remind one at first sight of Japanese Anemones, and remains in beauty for a considerable time. The chief drawback to the *Carpenteria* is that its foliage, when perfect of a beautiful light green, is often brown and shrivelled. This, I believe, is universally attributed to the effects of the frost, but I confess to having my doubts as to the correctness of this diagnosis. In the south-west the *Carpenteria* is a comparatively common plant, and one can generally reckon on finding specimens in every fairly large garden visited. I have made particular note of the condition of plants that I have met with, and have found the foliage vary from almost absolute perfection to a collection of brown and withered leaves, among which hardly a trace of green was to be seen. If frost and cold winds are the cause of the unsightly appearance presented by the *Carpenterias* last described, it would be supposed that those growing in open positions would be more affected than those planted in sheltered nooks, but I have on more than one occasion noticed the reverse to be the case, namely, that in the same garden the specimens most affected were growing in a particu-

larly sheltered site, where every harsh wind was cut off by protecting evergreens, and where the danger from frost was slight, while others standing in comparatively exposed positions showed but little sign of browning in the leafage. Only about a month ago I saw in the gardens at Saltram three shrubs of *Carpenteria*, and in this case again the one which had the least protection from surrounding subjects showed the best foliage. I am in every instance writing of specimens grown in bush form and not against walls. I am quite ready to allow that in some, perhaps many, cases sheltered plants may be in better condition than those not so favoured as regards their site, but the instances to the contrary that I have quoted have led me to wonder if the disfigurement may not be due to some fungoid growth and not to the effects of frost and cold winds.

S. W. FITZHERBERT.

THE APPLE TRADE OF NOVA SCOTIA.

FROM small beginnings in the early sixties, the Nova Scotia Apple trade has grown to be an important item in the exports of this province.

In 1880 the total export from Nova Scotia to England had not reached 25,000 barrels, but four years later records show the export to have doubled, and in 1886 we exported 121,000 barrels. The following season, however, the crop was small, and the export dropped to 57,000. The next five years the variation in quantity was not so great, averaging about 103,000 per season, and not exceeding 120,000 any season.

The season of 1893 again gave us a small crop. Exports fell to 36,000 barrels, the lowest record since 1883, but the export in 1894 reached 252,000, while the following season footed up 140,000 only.

The crop of 1896 broke the record with an export of 369,000 barrels, which figures have not since been reached. Following the heavy crop of 1896 there was a very marked falling off, the export being less than 82,000 barrels. In 1898 we shipped about 203,000, followed by 296,000 in 1899 and 210,000 in 1900.

Of the present season's crop there have been so far shipped about 125,000, with a prospect of there being nearly as many more to go before the season closes.—C. R. H. STARR, in *The Maritime Homestead* (of Canada), December, 1901.

EDITORS' TABLE.

ERYNGIUM TRIPARTITUM.

A specimen of a small-flowered *Eryngium* reached us last September with the name *E. tripartitum* (postmark Wrexham), but there was nothing to show who was the sender. It was put aside awaiting some communication, which, however, did not reach us.

TUSSILAGO FRAGRANS.

I am sending for your table flowers of this sweet smelling Winter Heliotrope. I often wonder why one so seldom meets with this useful and interesting plant. It is one of the Coltsfoot family, and can be grown in almost any out of the way place. Many of our gardens would be the richer if only a corner were given up to its culture. At this time of the year it is very difficult, and in many instances impossible, to find a plant in flower with a sweet smell. This plant will do well under trees on the lawn or in front of shrubbery borders, and I have found it doing well under old Apple trees in neglected orchards. Given a tolerably good soil it is one of those plants that will hold its own under almost any circumstances. From some reason or other this season the flower-stalks are longer than usual. This makes them useful for decorative purposes, the foliage is pretty, and makes a neat carpeting under trees at this dull season of the year. I have also another variety, *T. alba*, with white flowers; this is not so strongly scented, and might be preferred by some. It also grows very freely under the same treatment as *T. fragrans*. This plant will force very readily if not subjected to

too much heat, and grown in 5-inch or 6-inch pots it makes a very useful plant for almost any purpose.—T. B. FIELD, *Ashwellthorpe Hall, Norwich*.

With this came a large bunch of the type, the nutty-perfumed *Tussilago fragrans*, with its quiet greyish colouring and rich scent. A bunch of spikes and leaves is a delightful winter posy.

CHIMONANTHUS FRAGRANS.

This comes from Mr. Bowerman, The Close Gardens, Salisbury, and seed pods too, one of which



(A) POD. (B) SEED.

we had drawn to show its wonderfully distinct character; it is drawn life-size. The fragrance of "Winter Sweet" flowers is peculiarly unlike that of any other flower; it is a rich, satisfying, and yet delicate perfume.

CHRYSANTHEMUMS AT CHRISTMAS.

"At a time when the majority of Chrysanthemums are long past their best the few recognised late-flowering kinds are enhanced in value. The spidery varieties have much to commend them on this account, their display being so different to most others, and their curious and fantastic forms are not the least of their charms. The rigid disbudding which so many practice in the cultivation of this type of the flower fails to make a display nearly so interesting and pleasing as when the plants are only partially disbudded or not disbudded at all. For use in a cut state the naturally-grown sprays may be gathered with a splendid length of stalk, and the small flowers of Mrs. James Carter, of the thread-petalled type, used in conjunction with other larger blooms, such as King of Plumes and Cheveux d'Or, are very effective when arranged in a large vase for hall or drawing-room decoration. For the numerous smaller vases and other receptacles a bunch of blossoms of one variety arranged lightly, and in such a way that each bloom renders an account of itself, will make a pretty little decoration. The two photographs I send you represent two sorts which were gathered and arranged on Christmas Eve. The fluffy-looking blossoms with threadlike



CHRYSANTHEMUM WHITE THREAD.

florets are White Thread (a free-flowering white sort having a good dwarf sturdy habit) and the Pompon sort is Snowdrop, one of the best of the miniature-flowered Pompons, in this instance grown naturally, *i.e.*, allowed to develop all its buds. The plants were kept in a cold house for six weeks. I send you a few flowers for your table."

—D. B. CRANE.

Charming varieties. We are pleased to illustrate one, *i.e.*, White Thread.

COLEUS THYRSOIDES.

Mr. John R. Box, nurseryman, West Wickham, Kent, sends several inflorescences of this beautiful winter-flowering plant; the flowers are borne in erect racemes and are of a deep blue colour. Mr. Box mentions that he grows this plant largely, and finds that the flower, when cut, remains fresh for a long time if placed in water.

"ITALIAN DELIGHT."

I send you herewith a sample of *cotognata* (pronounced *colonata*) made in Rome from Quinces, Cotogno being the Italian name for a Quince tree. It is delicious. I have tried several confectioners, suggesting to them to get up a factory for making this "Italian delight." I have no doubt that it would sell easily all over the United Kingdom. One said there was no demand for it; as if there could be a demand for a thing nobody knows anything about! Another said that he could not get enough Quinces even for his marmalade. I tried this, and found it consisted of hard chips—so different from the *cotognata* I send you. There seems to be two things to be done. (a) To plant Quince trees extensively—they will thrive on damp soil. (b) To manufacture this "Italian delight," and sell it all over the United Kingdom through grocers and confectioners. When once tasted people will purchase it again and again. If this idea were suggested to Sir Thomas Lipton, or the company which bears his name, the orchards and the factory might be realised with profit to both and with delight to the people. I got a kilo of it from Rome; with postage and payment it came to 8s. for 2lb. I fancy it could be easily made in this country for 2s. per lb. and leave a good profit. The maker is G. Voarino, Via delle Muratte Nos. 14 and 15, A presso Fontana di Trevi, Rome.

E. BONAVIA, M.D.

The *cotognata* is what an English housewife would call Quince cheese, but this Roman sample is extremely refined and delicate. What is made occasionally in England, and more commonly in Germany, is rougher and brownish in colour, though an excellent thing of the stiff jam order, and always liked at dessert. This Roman *cotognata* of the finest kind has less of the strong Quince flavour, is without the dark Quince colour, and has an added rose flavour and colouring. A confectioner would probably make it with the Quince juice only, and some rice flour to give the consistency. This would also account for some resemblance to the texture to the well-known Turkish *rahatlakoum*.

THE ALGERIAN IRIS.

Mr. Hartland, of Cork, sends a boxful of Iris stylosa, a flower of beautiful colouring and delicate fragrance. The buds, cut before fully open, expand well in water, and last fresh for many days. Many are the gardens in these isles where this sweet winter flower may be grown. It is not at all troublesome.

OBITUARY.

MR. E. J. BEALE, J.P., V.M.H.

THE death of this gentleman, head of the house of Messrs. James Carter and Co., seed merchants, took place on the 8th inst. in London, somewhat suddenly, in his sixty-seventh year. Though Mr. Beale can scarcely be said to be prominently known in the trade, he was yet an important personality

in London commercial circles, and especially in the seed markets. He was an exceedingly shrewd man of business, and under his management the firm of which he was the head had grown enormously in extent and importance. At the time of his death he was a Justice of the Peace for Middlesex, and a few years ago he fought two contested political elections in the Liberal interest for one of the divisions of St. Pancras, though he failed to gain a seat. He took an active interest in the fortunes of the party he supported, and was frequently at gatherings at the National Liberal Club.

Among the honours he had gained in the course of his business life was the distinction of the Merite Agricole from the French Government for his services to agriculture; he was one of the first sixty selected in 1897 as recipients of the Victorian Medal of Honour from the Royal Horticultural Society for services to horticulture; he was also a Fellow of the Linnean and Royal Horticultural Societies; a member of the Royal Agricultural Society of England; and a vice-president of the Royal Gardeners' Orphan Fund.

Entering the seed business of James Carter when it was carried on in some old premises at 237, High Holborn, on which the present palatial shop now stands, he with Messrs. Ainsworth and White became partners in the business on the death of James Carter. Mr. White died some years afterwards.

In course of time Mr. W. H. Dunnett, a seed grower on an extensive scale at Dedham, in Essex, was taken into partnership, and the business was extensively developed. Mr. Ainsworth retired from the partnership, though it is said he is still the head of one of the important seed departments. Mr. Dunnett pre-deceased his partner some months ago, but both leave sons to carry on the undertaking. Mr. Beale leaves a widow and family.

R. D.

[We deeply regret to announce that the senior partner in the famous firm of Messrs. James Carter and Co. died very suddenly on Wednesday, the 8th inst., a few hours before we went to press. Mr. Beale was only in his sixty-seventh year, and it is not too much to say that the firm owes much of its present prosperity to his untiring energy and keen business capacity. Known to few outside his immediate circle, he pursued a quiet and important work in his own way, but those to whom he came into contact will remember him as a man of power and deep knowledge of the needs of the business over which he presided. An unobtrusive but powerful personality in the horticultural world has been removed by the death of Mr. Beale, whose good work will be carried on by Mr. Gilbert Beale and Mr. Dunnett, now responsible for the management. Mr. Beale was a Justice of the Peace for Middlesex, a Fellow of the Linnean Society, a member of the Royal Horticultural Society, and one of the Victorian Medallists of Honour.—Eds.]

SOCIETIES.

WIMBLEDON GARDENERS' SOCIETY.

At the fortnightly meeting, held on Monday, the 6th inst., the chair was taken by one of the vice-presidents, T. C. Summerhays, Esq., S.C.C., and a paper was read by Mr. J. W. Moorman, the superintendent of Victoria Park, upon "Variety in the Flower Garden."

He commented upon the state of the beds of the flower gardens of a few years back, filled with masses of yellow, scarlet, pink, and other colours, and repeated with but slight variation year after year, when the first frost had cut them down they were removed, the beds dug, and soil laid up roughly, remaining bare for six or seven months. This state of things was not satisfying, and led to those who wanted more pleasure from their gardens trying to remedy this. The use of a number of the smaller-growing shrubs—Retinosporas, Ivies, Daphnes, Euonymus, &c.—to cover the bare ground in winter was spoken of, as these could be moved to the reserve garden in summer. A few early-flowering shrubs should be included. The spring bedding Aubrietias, Myosotis, Wallflowers, Pansies, Alyssum, London Pride, &c. were commended. Again, in nooks on the grass the autumn Colchicums, the yellow Aconites, Snowdrops, Crocus, and Narcissus were most suitable. Tulips and Hyacinths for massing, Pansies, and Polyanthus all assisted in brightening the flower garden in early spring.

The introduction of Cannas into the flower garden and such plants as Acacia, Eucalyptus, Wigandia, Nicotiana, Perilla, the variegated Maize, Hemp, Cordylines, Palms, Ricinus, Erythrina crista-galli, and Coleus all served to change in a marked manner the style of the beds in summer. Most of these were so easy to raise from seed in a little warmth that for a small outlay a splendid effect could be had.

Again, what a harvest of flower and fragrance may be obtained from the forms of Stock, the Antirrhinum, Zinnia, African Marigold, the annual Aster, Verbena, good Celosia, Cockscomb, Phlox Drummondii, and Mignonette. Begonias, either tuberous or fibrous-rooted varieties, are valuable in wet seasons. Amongst the best and most easily propagated plants was the Viola, which might be used as an edging for the groundwork of beds. A little carpet bedding might be used in large places with effect, not keeping them down flat as in the older days, but relieving them with larger succulents, Cordylines, &c. The subject of mixed borders was also treated upon.

The paper was favourably received, and the advice given in it endorsed by some of the members. A few questions were asked, amongst them one on the use of the Sweet Pea, the beauty of which in its present state the lecturer fully appreciated, but considered them rather fleeting for a display. The perfection to which the Peony in single and double form had attained, its usefulness in the garden, and sweetness in a cut state were also discussed. A question as to how the fine display of Carnations in the London parks was obtained was said to be due to early layering. In some cases old plants were saved, but it was found necessary to pot them up in the winter.

A vote of thanks was given to Mr. Moorman for his excellent paper, and in replying to this he expressed the pleasure it gave him to come to them. He had not forgotten the Gardeners' Society, to which he belonged in Wimbledon some years ago, and to the influence of the meetings of that society he attributed some of the success he obtained now. The rest of the evening was devoted to a discussion of the ability of plants to obtain moisture through their foliage, arising out of a paper read at a previous meeting. Two letters on the subject—from Professor Percival, of Wye College, and Mr. J. Wright, of the Surrey County Council—were read, and an interesting discussion followed. The chairman was thanked for his attendance, and in reply stated that he had derived great pleasure from his attendance and regretted he had been debarred, owing to so many engagements, from being with them before.

BECKENHAM HORTICULTURAL SOCIETY.

At the fortnightly meeting at the Church House, Mr. H. Cannell, sen., F.R.H.S., M.S.A., lectured on the "Canna." After dealing with its history, the lecturer said to make a good start plump side shoots should be taken from well-ripened rhizomes in March and potted in small pots, placed in heat, and as soon as pots were filled with roots shifted into 6-inch pots, using rich soil such as would grow good Chrysanthemums. Abundance of water is required when growing freely, and as the pots get full of roots weak liquid manure should be given twice or three times a week, shading from bright sunshine when under glass. At Swanley they do not syringe, but occasionally sponge the leaves to keep them fresh.

Mr. Lanford, in proposing a hearty vote of thanks, said he had known Mr. Cannell for thirty years, and he did not seem to get any older. Mr. Burge, in seconding, said Mr. Cannell was an example to young gardeners, he having by perseverance and pluck raised one of the greatest horticultural businesses in the country. A very fine collection of vegetables and fruit from Messrs. Cannell's seed farm at Eynsford was exhibited in the Library, and much admired, the Onions being wonderful specimens.

NATIONAL AMATEUR GARDENERS' ASSOCIATION.

On Tuesday evening, the 7th inst., the first meeting of the new session was held at Winchester House, Old Broad Street, E.C., Mr. D. B. Craze occupying the chair. On this occasion the popular president, Mr. T. W. Sanders, F.R.H.S., gave a most interesting lecture on the fascinating subject of "Gardens of Taste and Beauty," illustrating his remarks with limelight views of a most comprehensive character. Mr. Sanders, in his opening remarks, was careful to explain that the subject he proposed to deal with was a very large one, necessitating his remarks being much condensed in order to come within the limit of time usually occupied. Various styles of gardening were illustrated by typical views, among them being the Dutch garden in its formal character, which had in many instances been reproduced in this country. The lecturer especially alluded to the Box edgings of beds and borders as being of Dutch origin. Numerous illustrations of woodland scenes were portrayed, both winter and summer effects. The gardens of some of the stately homes of Great Britain were in turn dealt with, in which pleasing and natural ideas were contrasted with others of formal design. Aquatics and water gardens appeared to interest the audience exceedingly, some of the views being of special merit, and very convincing as showing what could be done with streams and low lying portions of the garden. Naturally the greater share of attention was devoted to the gardens of a limited area. Very charming indeed were many of the scenes depicted in this series, the villa gardens in the suburbs showing what is being accomplished by those who desire to make a beautiful garden out of a very restricted area. Mr. Sanders strongly advocated the use of creepers for covering fences, walls, and other blank spaces. Arches over which to train creepers were considered. Straight paths, except where absolutely necessary, Mr. Sanders deprecated. In this brief notice justice cannot be done to the lecturer. The subject was very capably dealt with, and listened to by an appreciative audience. The show of various products of the members' gardens was most interesting, and the executive are to be congratulated.

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[JANUARY 25, 1902.]

THE IMPROVEMENT OF HARDY FLOWERS.

ALTHOUGH the number of good hardy flowers is already so great there is always room for their bettering. It is one of the keenest pleasures of careful gardening to notice an advance in quality in some special flower and to propagate that plant to its still greater improvement.

It is mostly, and most easily, in plants raised from seed that good new kinds may be grown. What a pleasure it is to watch for the blooming of a batch of young plants from carefully selected seed, or perhaps from seed specially fertilised in order to drive the strain in the desired track, and how the pleasure increases as year after year the strain becomes better and answers to the careful effort directed by the intelligent observation of the plant's capability and by good taste in the object aimed at.

It is essentially a work for amateurs, and what good flowers they have already given us. But more and more amateurs should do what Mr. Wilks has done with the Field Poppy and Lord Penzance with the Sweetbriar, the one by selection and the other by hybridising and crossing, what Mr. Engleheart is doing with the Daffodils, and Mr. Caparne with the Irises. Gardeners, nurserymen, and seed growers are not behindhand, as we see by the wonderful improvement of late years in Sweet Peas, in China Asters, in seedling Carnations, and in hybrid garden Roses. The careful watching and delicate manipulation needed for hybridisation should especially appeal to the leisured garden lover; indeed, we think it should be a point of honour with every amateur to do some one thing at least that will leave gardening a little better than he found it.

The following paper was read by Mr. Amos Perry, of the Hardy Plant Farm, Winchmore Hill, at the Horticultural Club, on the 14th inst. :—

It is now nearly forty years since I became interested in hardy plants. It was at the period of the "flare-up style of gardening," masses of brilliant colour for about three months, and the remaining nine almost bare. Most collections in nurseries were destroyed, and I have run through many of these doomed collections to buy up what I wanted at a nominal price, and to see these same collections reinstated within ten years from the time they were destroyed.

The only collections of repute in those days

were those of Backhouse of York, Rollison of Tooting, the St. John's Wood Nursery, Youell of Yarmouth, and May of Bedale. These collections were limited in extent but unlimited in price. *Digitalis purpurea* was priced at a shilling a plant; *Gentiana affinis* at the same figure. One had taken five minutes and the other five years to make. These were the sort of inducements offered to the public for buying hardy plants. They were practically ignored by everyone, and the trade always looked upon them as a great nuisance, costing far more than they were worth. To show how much they were appreciated I will just give you my first experience at the old Horticultural Gardens at South Kensington. I wished to make an exhibit at one of the summer exhibitions, and I believe this was the first time that anything like a representative collection of hardy stuff had been shown. A lot of preparation had been made, space had been written for, and on the appointed day a van with plenty of assistants appeared at the great horticultural exhibition. I saw the superintendent, Mr. Eyles, shortly after my arrival, and asked him for the space. He told me I should have to wait and see if any were left.

I did not like my reception a bit. After waiting and worrying till about eight or nine o'clock, he told me he would come and see what I had got. "Go and wait in the yard till I come," and I was foolish enough to go. After again waiting some considerable time I went and found him, and got him to go and have a look at the class of plants I proposed to exhibit. He looked at them in the van, laughed, and said, "I cannot have such rubbish here." However, after waiting another hour or so, a man was sent to me stating they had got a place for me in the western arcade among the exhibits of wire stands, pottery, and other accessories to the garden.

I was given two large wire stands to set up pots, pans, and boxes, and did the best under the circumstances. Now every show in the country largely depends upon hardy plants to fill the tents.

It is impossible in a short time to go fully into such an important subject as the improvement of hardy plants, the capabilities of which are immense, but it is of vital importance that this matter should be taken up to assist in maintaining an interest in this race. It is becoming more difficult every year to find novelties, and it is new or rare plants that the public want. It is surprising how little has been done in this direction. Some families, it is true, have been thoroughly dealt with, and these now form some of the chief attractions in the gardens of the present day, but how few have received the attention they deserve.

It is unfortunate that nurserymen as a rule have so little time to devote to this important matter. The older they get the more they have to do, and before they have accomplished one tithe the part of their early intentions

they find their energies directed to other phases of horticulture. What a vast field there is still for enterprising men to take up hardy plants and improve them by hybridising and selection. What an opportunity many of our gardeners have for this kind of interesting work. They have the materials and opportunities, and in hundreds of cases nothing would please their employers more than to know their gardens were the birthplace of numbers of plants which sooner or later would find their way into every garden in the land.

There is also a vast field open for men fond of mountaineering, but this class of enthusiast is difficult to find, because a young man has not the knowledge to detect a new plant the moment he sees it, while the middle aged man having the knowledge has not always the energy necessary to take a trip of two or three days' duration in the mountains, carrying all the paraphernalia required for climbing and knowing there is no luxurious hotel in which he can recuperate for the return journey.

In one of my trips to the Pyrenees, in 1870, I was successful in finding many interesting plants, some of which are now common, while others have, unfortunately, been lost—*Ranunculus pyrenaica alba*, *Primula integrifolia alba*, *Gentiana verna alba*, and a solitary double-flowering variety, which never survived the journey, *Anthericum Liliastrium major*—not the major now offered, but one growing 3½ feet, with very large flowers—and many others.

I am afraid we must fall back upon the amateur for the raising of seedlings, selection, hybridising, &c., and if we can only induce more enterprising amateurs to take up this matter no one knows what may be accomplished. Secretaries might greatly assist in the work by offering prizes for any improved variety of hardy perennials, and honouring them according to their merits.

We want more gentlemen like the late Mr. Nelson, Mr. Ewbank, and Mr. Harpur-Crewe, who did valuable work in their time; Mr. Wolley Dod, Mr. Engleheart, Sir Michael Foster, who has done so much for the Iris; Mr. James Salter, the father of the Pyrethrum, and many others. Some families have received a fair share of attention, and to the French florists we are principally indebted for the great improvement in the Phlox, which is still capable of further improvements. Many of them are too tall, and the Americans have just started a new race only growing 1 foot in height, which for many purposes will be invaluable. The alpine Phloxes were taken in hand by the Rev. John Nelson, and to him we are indebted for one or two of the best at present in cultivation.

The HOLLYHOCK is essentially an English flower, and Mr. Chater's name will always be associated with it, but I do not think there is much room for further improvement in that direction. We want a change, and I think the material is at hand in *Althæa ficifolia* for producing an entirely new race of Hollyhocks

dwarfer in growth, of pretty branching habit, and of far more value for many purposes than the present group.

CARNATIONS and PINKS now occupy a prominent place in our gardens, but what a change from the old school of florists, of which the late Mr. Turner was chief. A Carnation with a fringed edge in those days was considered a monstrosity, no matter how free blooming or beautiful in colour, and now we hear of fringed Carnations realising thousands of dollars.

In connection with the Carnation we must not forget Mr. Martin Smith, who has done more for this flower than any man living—and an amateur. Long may he continue his work with this family and set an example to others to try and do likewise with some other race.

DELPHINIUMS have received a fair share of attention, both by English and French raisers, and many splendid varieties have been the result. A remarkable break has been obtained by Messrs. Kelway, but although the results cannot be considered great, yet it is possible that from these may be obtained other varieties of greater merit.

The idea seems to prevail that a Delphinium should be blue, and if you admit a white or a yellow into your collection it must be a good one. It is, however, a great achievement to get a break of this description, and now we have white I see no reason why yellows, scarlets, and every other intermediate shade cannot be produced.

THE ORIENTAL POPPIES deserve mention as being one of the few recent families that have received special attention, and among them are many of great merit and still capable of great improvement. I see no reason why we cannot obtain as much variety, colour, and form as in the annual varieties. In Fringed Beauty we have the first break in form. The flower has a deep fringed edge to the petals, while in Mrs. Marsh we have the first bi-coloured variety, and with this material to work from no one can form any conception of what may be obtained.

The Tritoma has received a good deal of attention, but the work is only half done. T. MacOwani should be taken seriously in hand to endeavour to form a new race of dwarf varieties for summer flowering and adapted for massing as well as for pots.

Lobelias, Pentstemonas, Dahlias, Chrysanthemums, and others we know all about, but they hardly belong to the class of plant under consideration.

Now I will hastily run through some of the most important families that I think should be dealt with, and the first on the list will be the

ASTER, the capabilities of which are endless, and I believe before many years they will become one of our most popular families and be grown by millions, both in pots and in the open. In a very short time we shall have as many pinks and reds as we have blues and whites, and Perry's Pink is a fine one to work from, the colour being a good bright pink and the first of this section of a good colour. It is a seedling raised from Miss Stafford, a Winchmore Hill variety. Great care must be exercised in raising Asters to keep to the stick-at-home varieties. Do not touch those that run all over the border. A favourite group of mine is the cordifolius section, forming sheaves of the most graceful flowers, and favourites with everyone for cutting. I find this group is far better grown in partial shade.

THE AMELLUS group will take a first place for pots, their natural habit lending themselves to this mode of treatment. The flowers are large and of every shade, from the richest

violet imaginable to very pale blues. The white we have is of no use horticulturally, but what the progeny will be I do not know. In Perry's Favourite we have the first good pink in the Amellus section, and one that must become popular. There is no question that from this may be obtained varieties brighter in colour and invaluable in every way.

A good type of Aster to work from is Esme, a seedling of the Rev. Wolley Dod, 3 feet high, with a large spreading head, pure white, and remarkable for lasting a very long time in bloom. One can imagine what a double white of this description would be worth, and it is coming. We have already semi-doubles, and one fully two-thirds double, and I am looking forward to the coming season for many others of this character. A race of good double Asters will be a grand addition to our list of decorative plants and also for pots, and it is only a question of time to obtain them.

ANEMONE JAPONICA is in very successful hands, and great improvements have taken place, with many more to follow. Queen Charlotte, Mont Rose, and Rosea superba are grand. I should like to see the Parsley-leaved variety taken in hand. The foliage is wonderfully effective, but the flowers very poor.

AGROSTEMMA FLOS-JOVIS is capable of great improvement. It is a good all-round plant for cutting or decoration, and there is no reason why we should not get a double variety. There used to be a large double variety of A. coronaria thirty years ago, which I believe is now lost.

THE COMMON WHITE ARABIS has made a great bid for popularity. The double form is splendid for cutting, lasting well into summer. We have several species with rose and pink flowers. Why cannot we get this colour into the double one?

ASPHODELS form a very characteristic group, and I think the Asiatic and European species might be brought together with very good results.

ACONITUMS offer many opportunities for improvement. A good yellow A. japonicum or even a yellow A. Napellus would be a great acquisition. Do you think it possible to obtain them? I say yes.

The capabilities of the AUBRIETIA have been fairly tested, and we have now a good range of colour, but there is no reason why they cannot be still improved both in size and colour.

THE CALYSTEGIA, I believe, is capable of a great transformation, and I see no reason why flowers of immense size and of almost every shade of colour cannot be obtained in the perennial varieties. If the annual varieties would not assist in producing these results, we might seek the assistance of its American ally, the Ipomœa, for hybridising purposes.

CAMPANULAS.—We all know their capabilities, and there is not a single species in the whole race that cannot be improved. As a rule the great bulk are raised from seed, no attempt being made either to discard the bad forms or to retain the good ones, and many are becoming so poor as to be not worth growing. A few good hybrids we have, Van Houtte, G. F. Wilson, and Hendersoni being still among the best. I should like to see this family taken up by two or three enthusiasts, as they are so easily grown, requiring little attention and the results quickly seen.

CHEIRANTHUS ALPINUS, the alpine Wall-flower, would well repay a little attention. Crimson, red and yellow varieties would be very effective, and I think can be obtained.

CHRYSANthemum MAXIMUM has shown a remarkable development, and some of the flowers are really superb. For decoration or

for cutting they are matchless, and still I believe can be much improved. Some of the more recent seedlings have shown distinct signs of doubling, and I shall not be surprised any day to hear of one being raised. I have just read that American seedlings are showing signs of colouring, but I am doubtful about it.

(To be continued.)

NOTES OF THE WEEK.

Forthcoming events.—Royal Horticultural Society's committees meet at the Drill Hall, Buckingham Gate, Westminster, on Tuesday next; Société Française d'Horticulture de Londres monthly meeting, February 1; National Amateur Gardeners' Association meeting, Winchester House, February 4.

Iris persica Heldreichi is now in flower with me, having opened its first blossom on January 16, which I fancy is early, especially as the plants have received no protection whatever, and I see it is catalogued as a February flower. I. persica Tauri is also showing fat buds, and unless the weather is against it it will, to all appearances, be in flower a month in advance of the date given by Messrs. Wallace, from whom I obtained the bulbs, viz., the end of February. The intense blue of I. Heldreichi makes a pretty contrast to the yellow of the Aconite and Jasminum nudiflorum, about the only other things in bloom here at this early date, and I am anxiously awaiting the blooming of I. Tauri, which is described as being a fitting companion to the former.—F. H. C., Rye.

Calanthe Veitchii at Sunninghill.—A short time ago I called to see Mr. John Guyett, gardener to C. D. Kemp-Welch, Esq., The Broadlands, Sunninghill. His plants of Calanthe Veitchii were a picture of colour. There were about 100 6-inch pots, most of them with three enormous bulbs apiece, and grand spikes with very large flowers. Some of the spikes had from thirty-five to forty-five flowers open at one time. The plants were potted in loam and peat and grown in a moist stove with Cypripediums and other Orchids. Many good Cypripedium hybrids were flourishing in the same house—C. arthurianum, C. barbatum Warneri, C. grande, C. leeanum superbum, C. spicerianum (a grand variety), and many others; in another were about fifty pots of C. insignis carrying over 350 large flowers. These are grown in frames all the summer and receive most of the sun, only being shaded during the early part of the season. Mr. Guyett has to keep up a supply of flowering plants for a conservatory, also cut flowers for the house, and his culture is most successful.—F.

Azalea mollis.—The beautiful flowers of Azalea mollis that we have seen for a long time in the florists' shops of London would, a few years since, have attracted much attention, for the pretty terra-cotta tints are always admired, but now, owing to the system of retarding so much followed, many subjects are to be seen in flower quite outside their usual season. During the Christmas season Lilium auratum, L. speciosum in variety, and L. longiflorum, Azalea mollis, Spiræas, Lily of the Valley, and Lilac were plentiful. Though a few of these may have been forced the bulk had been retarded. Concerning Azalea mollis the neat little bushes bristling with flower buds, many of which are sent here from the Continent every season, form delightful specimens for the greenhouse if potted up as soon as possible, placed out of doors for a time, and early in the New Year taken into the greenhouse. In this way the flowers remain fresh much longer than those that have been hard forced, and though they may not anticipate their usual season of blooming out of doors by more than a month, they are as welcome as the earlier ones. One great advantage of those that are so gently forced is that they can be gradually hardened off, and ultimately planted outside.—H. P.

Royal Horticultural Society.—The next fruit and flower show of the above society will be held on Tuesday next, in the Drill Hall, Buckingham Gate, Westminster, 1—4 p.m. A lecture on "The Renovation of Old Fruit Trees" will be given by Mr. George Bunyard, V.M.H., at three o'clock. At a general meeting of this society, held on Tuesday, January 14, seventy-one new Fellows were elected, amongst them being Sir Randolph L. Baker, Bart., Lady Burnett, Dr. R. S. Charsley, and Dr. E. J. Fulk Hart.

Continental horticultural exhibitions.—The dates of the following shows have been fixed:—Paris: Spring show of the National Horticultural Society at Cours-la-Reine, May 21 to 26; general exhibition at Lyons, May 28 to June 2; horticultural and agricultural exhibition at Cannes, March 6 to 10; international exhibition at Lille, May to September.

International exhibition at Lille.—An international exhibition, the first of its kind, will be held at Lille from May to September of this year. The buildings and gardens will cover 150,000 square metres of the Champ de Mars. Horticulture will be represented; all letters of enquiry should be addressed to l'Administration de l'Exposition, 35, Rue Nationale, Lille.

"My Garden Diary."—"An artistic and most useful diary for horticulturists." Such is Messrs. Sutton's description of the dainty booklet that annually makes its appearance at this season, and such, indeed, it proves to be. For each month of the year there are reminders as to the most important work to be done in every department of the garden, and blank pages for memoranda are provided. These will prove its claim to utility, and its tasteful get-up those who see it will readily admit.

The forthcoming Rose conference.

—Since the season tickets of the Royal Horticultural Society were issued the date of the Rose conference at Holland House has been altered from June 25 to June 24 (and, if the police arrangements permit, continued on the original date, viz., June 26). The dates originally fixed were June 25 and 26, but the coronation being fixed for the latter date upset the first arrangements. We hope it will prove a big success and one of the events of the London season. It is just one of those fixtures that in the excitement of the greater events occurring in the same week may be a failure or the reverse, and of course we hope it will be a triumphant success, botanically, horticulturally, and socially. It has the advantage of an interesting setting.

Scraps from Wisley.—I fear that many gardens have suffered more than ours from shortness of rain. Oakwood being in parts naturally moist soil, the late rains have done much good, but the garden has been drier than it has ever been before in the twenty-three years since it was begun. Ponds that were never very low before shrunk so much that the loam began to sicken, and we had to protect the Marliac Water Lilies. The winter moth has been more than usually abundant this season, and is still showing itself. We have now lost the faint hope that by greased bands annually on all the fruit trees we should have fewer moths to contend with; the bands involve trouble and some expense, but the leaves on the trees are never injured by moth. The most important flowers now in bloom are the early Irises, *I. Histrio*, *I. bakeriana*, and *I. alata*. One flower of the last is exceptionally fine, and would compare with many good Orchids. Christmas Roses have bloomed well. *Crocus Imperati* in small beds is flowering. In one of your contemporaries I note that it is said that few Pears with foreign names are as good here as in their own country. We have an exception in *Bergamotte d'Esperen*; it had a good crop, and the fruit is of fine flavour.—GEORGE F. WILSON, *Heatherbank, Weybridge Heath*.

South African fruit farming.—Among the many smaller industries which may be reasonably expected to expand largely in South Africa when the unenterprising Boer gives place to the more energetic Briton, fruit farming should occupy a leading place. With all descriptions of

soil and climate open for selection between the southern littoral and the Zambesi, it should be an easy matter for experts to decide the most suitable localities, especially in the new Colonies. Judging, too, from what has latterly occurred in Canada, there seems good reason to believe that the venture would prove highly profitable. The Dominion, with its bleak climate and high wage rate, not only produces sufficient fruits of several sorts for its own consumption, but exports more and more largely every year. The industry has also struck root in Australasia. In view of these Colonial successes, the future British settler in South Africa will have strong encouragement to add fruit cultivation to his other farming operations. There should be little difficulty in getting surplus produce from any part of the interior to the coast when the system of railways now in course of construction is completed. Trade will then find an exit either at Beira, Lorenzo Marquez, Durban, or Cape Town, and with refrigerated transport trains in use, little deterioration should occur to fruit during the journey. As fruit farming does not require such long experience as pastoral farming, the industry deserves the attention of those soldiers who, with a little capital in hand, meditate permanent settlement in the new colonies of Rhodesia after the war.—*The Globe*.

Flowers out of doors.—I have a *Lapageria rosea* in an arcade facing south covered with flowers and buds now (January 15). It has been there without protection for five or six years.—MEDWAY, *The Grange, Benenden, Cranbrook*.

Notes from North Wales.—After the fortnight's snow and ice-cap, about a week after Christmas came a thaw and a very strong west wind, and I went round the garden to see how my pet plants had fared. Everything looked wonderfully fresh and well, and some *Sternbergia lutea* flowers looked as bright as before the frost. At last I understand how the wooden labels get displaced. The frost had loosened the top of the ground, and in the strong wind the uplifted labels were being shaken backwards and forwards, and some were literally blown out of the ground while I was watching them, and carried some little distance. I have not yet found out what is the best sort of label for herbaceous borders. One has to have so many, and they are not ornamental. Going on with my inspection I found my patches of *Iris reticulata* just appearing above the ground very strong. These do very well, and increase marvellously in our light soil. Slugs sometimes destroy a great many in the spring when the bud is just about to expand, eating it off close to the bulb, which never recovers. To prevent this I plant the bulbs in ashes sufficient to cover them, and the roots go through into the good soil underneath. This seems to answer well. *Hepatica angulosa* is full of buds this year. I think I have accidentally discovered how to make it flower freely. It came to me with the character of being a shy bloomer, and acted up to it. A season or two ago, when we were dividing our plants, some were roughly laid in in the kitchen garden to be given away. A clump of the *Hepatica*, half out of the ground, flowered profusely in its uncomfortable-looking quarters. Taking the hint I put a spade under a clump in my border, hove it well up, and let it remain so all the summer. It is full of buds now. Perhaps it grows on banks in its wild state and the earth gets washed away from the crowns. The new blue Primroses insist on flowering all the winter whatever the weather is. I feared it would spoil them for the spring, but last year each plant was literally a mass of bloom. In some cases the leaves were hardly to be seen at all. The pale blue ones were the most floriferous. The Christmas Roscs are splendid this year. We have picked 102 blooms off one medium sized plant, and there are still about fifty buds on it. We divided a large clump late last spring, and each young plant is full of bloom. We give them soot water. Many of the blooms are nearly 4 inches in diameter.—E. J. LLOYD EDWARDS.

The Pomegranate in England.—*Punica granatum* is, when in flower, one of the most attractive of wall shrubs, but unfortunately in many cases, although making good growth and

escaping injury from frost, it absolutely refuses to bloom. Instances have come under my notice in the south-west during the past year where Pomegranates covering a large expanse of wall have been flowerless for years, although all expedients to induce bloom, such as lifting, root pruning, &c., have been resorted to in order to bring about a floriferous habit. Winter cold can scarcely be a factor in this shyness of blooming, for I remember two cases in Somersetshire where the Pomegranate flowered many years ago, one being a plant growing on a carpenter's cottage facing a village street. I often used to admire the bright blossoms as a child.—S. W. F.

Picking Apples.—The simple act of picking Apples off the tree is quite an art, and requires considerable skill and experience. A man can grab an Apple and pull it off by main strength and stupidity, leaving the stalk behind on the tree and the Apple broken where it is pulled out, ready to rot at the least provocation, and shaking off a dozen more to fall on the ground or limbs and bruise. Or he can by taking it carefully in his hand with his fore finger against the stalk and giving it a turn break it off without a jar. Apples should never be thrown or pitched into the baskets on account of bruising them, but should be placed carefully in, the hand turned over so that the Apples are underneath, and not allowed to drop off the hand into the basket. The baskets of Apples as they come from the trees are poured carefully on the picking tray, which is covered with a soft rug, and sorted from there directly into the barrels.—ARTHUR C. STARR, in *The Maritime Homestead* (of Canada).

Gardeners' feathered friends.

At a recent meeting of the Kidderminster Horticultural Society, Mr. Percy Bunyard, of Croydon, gave an interesting and instructive lecture upon the above subject. Numerous illustrations were provided by means of lantern slides, showing the birds and their nests. While admitting the obvious damage that some birds may commit, Mr. Bunyard made out a strong case in favour of many that have fallen under the gardener's ban. The chats, warblers, tits, wrens, wagtails, flycatchers, finches, in fact all the birds that visit our gardens, were in turn mentioned and thrown on the screen, and their habits explained in detail.

Lycoris squamigera is the only plant of its genus which the amateur can cultivate with a certainty of success; the others, *L. aurea*, *sanguinea*, and *radiata*, are very difficult to flower; in fact, one may grow these for twenty years in all positions and yet fail with them. *L. squamigera*, a Japanese plant, is the best of all. It shows a marked kinship with *Amaryllis Belladonna*, both in manner of growth and season of flowering. The leaves are strap-shaped, of a glaucous colour, and the scapes are produced in August, long after the leaves have withered, and bear from six to eight *Amaryllis*-like flowers 4 inches in length and span, coloured a soft delicate shade of rose and tinted with blue at the tips. This blue tint suffuses the whole flower if cold weather prevails at the time of opening. The long crimson style and filaments are depressed, so that they break through the perianth, ascending at the tips only. Planted 6 inches deep in a light, rich soil, in a warm, sunny position, this plant thrives well enough. The bulbs increase quickly by offsets, inasmuch that a single flowering bulb, producing one scape only, will, in three years' time, produce four or five scapes, bearing, in the aggregate, from thirty to forty flowers. A row of these plants growing in Mr. Worsley's richly stocked bulb garden at Isleworth is a fine sight in August, when a display of 100 or more spikes may always be seen. It is a plant well worth looking after as it is more dependable than *Amaryllis Belladonna* in the matter of flowering once it is established, and the flowers are scarcely less beautiful. It is a gross feeder, appreciating applications of liquid manure when in full leafage and just before the flower scapes appear. The resemblance of *Lycoris* bulbs to those of *Narcissus tazetta* is well known to the Japanese, hence the not infrequent presence of bulbs of *Narcissus* in importations of *Lycoris*.—GEORGE B. MALLETT.

A valuable winter vegetable.—In many gardens Turnips at this time of year lose flavour, and are not much liked on that account, while in others the roots, if at all large, do not keep sound, and it is well to grow a substitute. For the past few seasons both here and in the north (Alnwick Castle) we have found Sutton's White Swede a most valuable winter vegetable. The name Swede may not sound so pleasant as Turnip, but there will be no objection to the flavour when cooked; indeed, this garden Swede is a most wholesome vegetable. There are two varieties, the white and yellow. I prefer the white: it is remarkably hardy, and the roots should not be too large. It is a most valuable winter vegetable, and keeps sound until the early-sown spring Turnips turn in. The plants need little space. The tops are short, the roots shapely, and no matter how severe the weather the roots winter well, the flesh being equal to the Turnip; indeed, superior at this time of year.—G. WYTHES.

Tulipa saxatilis.—I am afraid Mr. Woodall's criticism on the tendency of this plant (see note, page 21) is of very general if not of universal application. I have noticed precisely the same thing for the last year or two. The plant, with something of the habit, but without the vigour of the common *T. sylvestris*, seems to spend itself in running about. I have the species planted in two or three places, but I have not had flowers for two years. I see it now (January 12) coming up all over the place, and in among labels of choice species of the same genus. This is much to be regretted, for it is one of the most distinct of the genuine species of *Tulipa*.—J. C. L., Kent.

Apple Hubbard's Pearmain in the North.—Certain varieties of fruit in diverse localities succeed much better than others, and when recently visiting Northumberland I noted what a beautiful fruit the above variety is. For midwinter supplies it is a great favourite for dessert, and as a table variety compares favourably with the very best kinds grown, its rich flavour making it valuable. Few varieties crop more freely than the Hubbard's, and the fruit, if well grown, is of medium size, but on account of its free cropping is not always so. I do not think small dessert Apples are out of place if, like this variety, they are well coloured, shapely, and of good quality. It is a very old variety, and not so often seen in the south as in the eastern and northern counties. It is a neat, compact grower, very hardy, blooms rather late, and is an abundant bearer. It does remarkably well in cordon form, and in late districts grown thus rarely fails to crop well; grown in bush form it is a profitable variety, and on this account should not be overlooked where good dessert Apples are required from December to March.—G. W. S.

A suggestion for the National Rose Society.—The idea has often occurred to me that a stimulus could be given to the more artistic arrangement of Roses in the garden if some society, such as the National Rose Society, offered medals or prizes for the best rosary, say, in each county. It is well known that many of our leading amateurs care little or nothing for arrangement of their plants provided they obtain a quality of blossom from them. From an exhibitor's point of view this may be desirable, but surely the Rose as a garden plant is worthy of the best setting we can give it, and, happily, we are not all exhibitors. I do not wish to disparage exhibitions or exhibiting, but I hold that the greatest pleasure is derived from the Rose when the plants are arranged in a skilfully-designed rosary, where the splendid decorative qualities of modern kinds fittingly blend with the magnificent show bloom, or with the simple beauty of the exquisite single species, and the varieties which have attained to such remarkable development. I am fully aware of the difficulties of the proposition to award prizes, for obviously it would be unfair to compare a palatial Rose garden with one of more modest pretensions; but I imagine this could be adjusted by classifying according to quality of plants grown or some such plan. I can understand how proud a gardener would be to hold the gold medal of the National Rose Society for the rosary that has

grown up under his supervision; it would be indeed a grand testimonial for him, and surely the owner would be equally gratified. As I said before, there must of necessity be various limitations as to age of Rose garden, its extent, and locality; but these minor matters could be dealt with by a suitable committee of experts. The main thing is to have the matter discussed, and I think this memorable Coronation year would be a suitable one for the promotion of such a scheme. I am confident that many lovers of the Rose would spare no expense or trouble if they could possess an ideal Rose garden, and I am sure the prize winners would be delighted to give a proof of the happy brotherhood that exists among the Rose-growing fraternity by affording opportunities to would-be planters of inspecting their Rose gardens, and that they would afford them such practical information as can best be obtained from a visit to a well-kept rosary.—PHILOMEL.

Introduction of *Erinus alpinus*.—Can you tell me if there is any trace of *Erinus alpinus* having been introduced by the Romans? A lecture was recently given in Northumberland on the Roman Wall. The lecturer mentioned that *Erinus hispanicus* was an introduction by the Romans. A brother of mine used to carry some seeds of it about with him and sow it on mossy walls. His daughter says she had no doubt but that it was *his* introduction. I have always known it as *alpinus*. The same daughter tells me that she sowed some on the walls of the Roman baths at Bath.—M. B.

Rhododendron Daviesi.—If only to perpetuate the memory of an enthusiastic lover of plants and successful hybridist—the late Mr. Isaac Davies, of Ormskirk—this *Rhododendron* is worthy of note, but it is, in addition, very attractive. Though its flowering season is usually limited more or less to the spring months, like most of the hybrids of *R. javanicum* it is not strictly confined to that season, and its bright-coloured flower clusters are, in a warm greenhouse, just now very attractive. It was obtained by the intercrossing of *R. javanicum* and the pretty little *R. retusum*, also a native of Java, whose bright red flowers, somewhat like little Fuchsias, are borne usually in late spring or in early summer. This last-named species has, as far as I know, not been employed by Messrs. Veitch in the production of their numerous and valuable hybrids, hence it is distinct from any of them, the flowers being rather small, partially drooping, and bright orange-red in colour. It is apt to run up tall and bare during its earlier stages, hence it is more adapted for large specimens than as small plants. As far as I know, only one other variety claiming parentage from *R. retusum* has become at all popular, and that was *R. Prince of Wales*, sent out by the then prominent firm of Rollisson in the early sixties, but it seems to have long since dropped out of cultivation.—H. P.

New hybrid alpine Iris.—I enclose two photographs of a new hybrid alpine Iris; the one (upright) taken on December 30 last from a flower which had been open a week in an unheated greenhouse; the second (group) taken from plants growing out of doors in an open field, January 7, 1902, the variety in this latter case being *Voltaire*. The flowers of the former are pale sulphur in colour, and of the latter lemon-yellow, with blotched falls, while the height of the plant is 6 inches. One or two flowers which had gone over were removed from the group before photographing.—W. J. CAPARNE. [Unfortunately, the photographs were not suitable for reproduction, but they showed how interesting the flowers must have been in their full beauty. We hope Mr. Caparne will continue his good work of raising new Irises.—EDS.]

Hardiness of certain shrubs.—Mr. Dugmore in your issue of the 4th inst. comments very fairly on my notes of December 14, and asks certain questions which I am pleased to answer. The temperatures mentioned in connection with the *Camellia* were registered by a thermometer fully exposed 4 feet from the ground and fixed to a wooden post. The *Benthamia* I referred to stood on the border of Exmoor 400 feet above sea level,

exposed to the north, from which quarter on the occasion named a continuous gale blew for five days, which kept the mercury of a thermometer exposed against a house wall at 14° without change. As regards Cacti I have not had much experience, and merely wished for information; those I have been successful with are *Opuntia*, *Cereus*, *Echinocereus*, *Echinopsis*, and *Echinocactus* of various sorts, and I have seen the *Cereus chilensis* in several Swiss gardens and been told they are left out all the winter. The *Aloes* I had in my mind were the American and Mexican species, and with these I quite agree that damp is an important factor.—NEMO, Devon.

Preserving wild plants in America.—In order that the desirability of preserving native species in their full beauty shall be continuously brought to the public attention, the Misses Olivia and Caroline Phelps Stokes presented to the board of managers of the New York Botanical Garden, under date of August 29, 1901, the sum of 3,000 dollars, on condition that the interest of this fund should always be used for the investigation and preservation of native plants, or for bringing the need for such preservation before the public. A definite course has now been decided upon, and an offer of money prizes is made for suitable essays.—*American Gardening*.

Apple Sturmer Pippin.—I am glad to find that this good Apple is receiving more attention. I consider it unsurpassed either for dessert or cooking in March and April, the flavour of well-ripened fruit being delicious. Some complain of its small size, but when grown in good soil it is as large as Cox's Orange Pippin, which is quite large enough for a dessert Apple. I remember some fine pyramid trees which grew in a garden in Essex many years ago. The soil was deep and loamy, and the trees bore splendid crops of large highly coloured fruit almost annually, and they kept well until spring. It has a hardy constitution, and often bears fruit in unfavourable seasons when other varieties fail.—J. CRAWFORD.

STOVE PLANTS.

ARALIA.

Of the numerous kinds of *Aralias* some are hardy, some are greenhouse plants, while others require the temperature of a stove to ensure the best results. It is with the latter that I would now concern myself. The *Aralias* are primarily

FOLIAGE PLANTS,

that is to say, they are cultivated chiefly because of the ornamental character of their leaves. It cannot be denied, however, that some, more especially the tall growing, handsome hardy species are decidedly more striking when in flower than otherwise. Some of the stove *Aralias* may be classed amongst the best of hothouse plants; the leaves are beautifully formed and of particularly graceful appearance. They will not, perhaps, withstand so much rough usage as some stove plants one might mention, and should not, if one wishes to keep them in good health and in possession of all their leaves, be frequently made use of for decorative purposes in cold rooms or other places unsuited to their well-being. *Aralias* are somewhat

DIFFICULT TO PROPAGATE,

the only satisfactory method being that of grafting, and they must at no time be subjected to careless treatment, for few stove plants will more quickly show the effects of neglect than will *Aralias*, and a plant of this description, when bereft of its lower leaves, and with some of the others far from the colour they ought to be, is anything but a thing of beauty. Careful watering has much to do with keeping them in the best health. Either an excess of moisture at the roots, or occasional periods of drought at the same source, will almost certainly cause the leaves to fall. It has been before mentioned that the

SOIL FOR STOVE PLANTS

should have a large admixture of sand in its composition; irregular or careless watering will then

not be so liable to ruin the plant as if this ingredient were absent. The more delicate of the stove *Aralias* require a somewhat lighter soil than do stronger growing ones; for the former a compost consisting of equal quantities of loam, leaf-soil, and peat, with a liberal addition of the all-important sand, should produce the very best of plants in so far as soil can ensure that result. Loam may preponderate in preparing a potting compost for the strongest growing ones. Good drainage is, of course, essential in both instances.

For table decoration some of the most graceful of the stove kinds are particularly suitable: their finely cut foliage, whilst not obstructing in any way one's view, yet provide a tasteful embellishment for the table. Some of the more noteworthy stove *Aralias* are *A. elegantissima*, *A. Veitchii*, *A. V. gracillima*, *Guilfoylei*, *Reginæ kerchoveana*, *papyrifera*, and *leptophylla*.

ARISTOLOCHIA.

But few collections of stove plants contain, if any, more than one plant of *Aristolochia*, and the majority possess none at all. These plants have quaint characteristics of their own, however, that should commend them to plant lovers. What could one have, for instance, more remarkably curious than the giant flowers of *A. gigas* var. *Sturtevantii*? A few years ago it was thought and spoken much of, but the gardeners of to-day appear to have relegated it to quite a back place, if indeed they have not dispensed with it altogether. *Aristolochias* may either be grown in pots or planted out; preferably the latter, for being climbers they need to be attached to some support, and grow more freely also when a good root-run is provided. Propagation is not at all difficult; it is best effected by inserting in a mixture of sand and fine soil (the former predominating) cuttings made from young shoots; these should be about 4 inches or so long, and if possible be taken off with a heel of the old wood attached. A warm moist atmosphere is essential to their well-being; the more vigorous and numerous the growths the more probability is there of a good display of flowers. Sufficient shade only to prevent the foliage being scorched should be given; too dense a shade will cause the shoots to be so soft that they may flower but poorly. *A. gigas* and *A. gigas Sturtevantii*, with enormous flowers; *A. elegantissima*, *A. caudata*, *A. goldieana*, *A. tricaudata*, and *A. odoratissima* are noteworthy.

ASPARAGUS.

The several varieties of *Asparagus* that are now so largely made use of in floral decorations may, I think, be fairly included in a list of stove plants, for, although most of them will grow in a greenhouse temperature, they succeed far better under warmer conditions. In a warm and fairly moist house they are far happier than in one that is quite cool; they grow much better, and are altogether more satisfactory. Undoubtedly they (or most of them) should be planted out rather than be grown in pots; the results of the former practice thoroughly justify one's following it. The graceful green streamers are produced in great profusion when the plants enjoy a good and fairly light soil in a well-drained border. Loam, with a liberal addition of leaf-mould and silver sand, forms a suitable compost, and the drainage is most important. This item is of even greater significance when dealing with a border in a glass house than with plants in pots; in the latter case the matter is not difficult to remedy, in the former it can scarcely be done.

WITHOUT SERIOUS DAMAGE

to the roots of the plant. The long and graceful growths of the various *Asparaguses* are invaluable for decorative purposes; they remain fresh much longer when cut than Fern fronds, and can be utilised to a better purpose. Shade is essential to the production of the finest and deepest coloured leaf-sprays. *A. plumosus* is the one most commonly grown; its varieties, *nanus* and *tenuissimus*, are also popular. *A. Sprengeri* has recently been much sought after, and in our market nurseries is now very extensively grown. *A. retrofractus*, *A. verticillatus* (bearing red berries), and *A. scandens* are also most serviceable. A. P. H.

NOTES ON HARDY PLANTS

HARDY PRIMULAS.

HARDY Primulas are not grown so much as their beauty deserves or as much as one might expect. They commence to bloom in March, and one species or another continues to do so until the autumn. The photograph shows a group in my rock garden of various kinds all worth growing. The larger head to the right is *Primula denticulata alba*. *Denticulata* (the type) is in the centre; beneath it is the Bird's-eye Primula (*P. farinosa*), a native plant, I believe; then in the extreme right corner is *P. viscosa*, and the pretty white form *P. nivalis*. A good clump of the Spider Web (*Sempervivum arachnoideum*) can be detected in the right-hand top corner.

Primulas are one of the earliest of spring flowers, are easy of culture, and live through the hardest winter provided they have good drainage and water is not allowed to collect near the crowns. They have a curious habit of raising themselves out of the ground, and thus require a little attention, such as a mulch of good soil worked in round the roots in the late autumn. Other Primulas worth growing are *capitata* (one of the best), *japonica* (in three forms), *luteola*, *marginata* (a gem), *rosea*, *Sieboldi* (in a dozen shades), *sikkimensis*, *Stuarti*, and *villosa*.

H. E. MOLYNEUX.

ALDBOROUGH ANEMONES.

THESE should find a place in every garden, as no other flower makes such a brilliant show during April and May, and no other flower, except *Lachenalias*, last so long when cut and placed in water. They originated in the garden of the late Rev. G. Nelson, of Aldborough, and are a great improvement on the old *Anemone fulgens*. They were exhibited in splendid condition at the Norwich spring show last May by Mr. Allan, of Gunton, who grows them to perfection. Gunton being within a few miles of the sea, the moist climate seems to suit them admirably. Their culture is easy, but they should be divided and transplanted every few years. A well-drained loamy soil, rather sandy than otherwise, well enriched with horse or cow manure—preferably the latter, as it is cooler—suits them best. If the soil is inclined to be heavy, a liberal quantity of leaf-mould, road grit, and wood ashes should be incorporated. They require a moist root-run, and to plant them in rockeries or on sloping borders is to court failure. In dry seasons the plants should be mulched with old Mushroom-bed manure or leafy refuse, and receive one or two good waterings. The corms should be divided and replanted at the end of every second year, and is best done as soon as the foliage dies down. The seed should be sown as

soon as ripe in a semi-shaded position, and it is a good plan to place a light over the seed-bed, letting it rest on four flower-pots to protect the seed from heavy rains. J. CRAWFORD.

TROPEOLUM SPECIOSUM IN THE SOUTH-WEST.

MR. J. CROOK, writing of *Tropeolum speciosum* on page 23, asks others to give their experience of this gorgeous climber in the south. Though a showy weed in Scotland, where barrowfuls of roots may be had for the asking, it is generally considered difficult to establish in the south. Until a few years ago I shared this opinion, but have lately had reason to considerably modify it. In a sheltered and low-lying valley, about 20 feet above sea level, in the neighbourhood of Torquay, I planted roots in various positions. All of these died except one,



PRIMULA DENTICULATA, P. D. ALBA, AND P. FARINOSA IN A SUBURBAN GARDEN (BALHAM).

which was planted in a wall angle facing north-east, where no sunshine fell on the ground throughout the entire year, though in the summer the upper shoots of the plant were exposed to the sun's rays. In a garden in the vicinity of Teignmouth many roots of *Tropeolum speciosum* were planted some years ago in prepared soil. After the planting had been completed it was found that some roots remained over, and these were hastily consigned to the soil in a *Rhododendron* bed. The carefully-planted roots made poor growth and eventually died, though well attended to in the matter of watering and keeping the soil free of weeds, and the attempt to cultivate the *Tropeolum* was pronounced a failure. Two years later a trail of vivid scarlet appeared on a *Rhododendron*, and it was found that the forgotten remnant of roots had become firmly established in the bed. Year by year the display increased in splendour, and now in the summer, after the *Rhododendrons*



LILIUM WASHINGTONIANUM—SIERRAN FORM AND TYPE.

blooms are past, the bushes support a billowy sheet of vermilion. In another garden, a few miles distant from that just alluded to, a hedge of *Berberis stenophylla*, which bounds one side of a tennis lawn, is interwoven with the shoots of *Tropeolum speciosum*. After the *Berberis* has flowered the flowering sprays are cut back and the bright orange of their blossoms is replaced by the scarlet of the *Flame Nasturtium*. On a north wall in the neighbourhood of Plympton this *Tropeolum* flourishes in company with *Lapagerias*, red and white, and in another garden, a mile nearer the moor, it is doing well on the trunk of an enormous *Silver Fir*. Last spring at Kingswear, South Devon, close to the mouth of the River Dart, I planted, without much hope of success, several roots of *Tropeolum speciosum*. The site is distant only about 40 yards from the water's edge, and is about 30 feet above sea level. Some were planted against a high north-western wall which gets no sun until noon, others against a south wall, both walls being faced with painted wire netting. Others, again, were planted in a spot where I felt they were foredoomed to failure. The public road is faced by a masonry wall 8 feet in height, the ground level inside the wall being 6 feet 6 inches higher than the road, thus leaving the garden a boundary of 18 inches of wall, above which wire netting to the height of 3 feet is stretched. The wall faces due south, and the *Tropeolum* roots were planted immediately behind it, only receiving such shade as a height of 18 inches could afford. Much to my surprise the plants grew and flowered well, although the spot is a veritable sun-trap, and the summer was exceptionally hot. All the roots were planted in

compost of peat, leaf-mould, and loam in equal proportions, to which a liberal allowance of road-grit is added.

I may say that up to this summer I have always considered Kingswear, with its almost precipitous southern slope, its light shallow soil, and its summer drought, about as unlikely a spot for the *Flame Nasturtium* to succeed in as could well be imagined. *Mesembryanthemums* flourish, braving the winters out of doors without protection, and *Acacia dealbata* is generally in flower in the open before February, but the climatic conditions that render such things possible are the very ones that are supposed to be fatal to the successful culture of *Tropeolum speciosum*.

S. W. FITZGERBERT.

Kingswear, South Devon.

CORRESPONDENCE.

(The Editors are not responsible for the opinions expressed by their correspondents.)

FRUIT EVAPORATION.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—The excellent report of Mr. Harper's lecture on "Fruit and Vegetable Evaporation" needs no supplementing from me, but I would like to offer a few remarks on the subject. I think that Mr. Harper has made it plain that there is a demand for evaporated produce, and at the same time explained very clearly that the price obtained for these is not such that it would

displace the trade in fresh fruit. But all who are connected with the land know only too well the unfortunate results of a glut, and it is this state of affairs that evaporating may be able to remedy. It enables the grower to keep off the market either the entire crop or at any rate the inferior part of it. He must value what he keeps back, not at the top price but at the bottom price. We are told continually that we ought not to market our inferior fruit and vegetables. That if we threw them away the difference in the price obtained for the best part would more than compensate us for the loss. It is thus the object of those who advocate evaporating to turn this waste into a possible profit. That is the whole object of the process, and it is just this that people are apt to lose sight of. The essential condition of produce for evaporating is its state of ripeness, and not size or shape. It may be objected that the results of a process worked on these lines would not be marketable; probably not, if each one did the work for himself, but if farmers combined and marketed their dried fruit and vegetables through a co-operative society in large quantities and in uniform condition (and this can be done without a very large capital expenditure), then the prospect is at any rate hopeful. The import trade in these articles is as yet in its infancy, and now is the time for us to try and get hold of it. It is essential that in making this attempt we should be as far as possible united and work together.

G. F. EYRE.

Agricultural Organisation Society, Dacre House, Dacre Street, Westminster, S.W.

MR. BURBANK'S HYBRID LILIES.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—In his letter in *THE GARDEN* of September 28, 1901, Mr. Burbank refers to some hybrid Lilies now in my hands, and also to the so-called *L. Burbankii*. It so happens that I have known all these Lilies since they were in the seed pans ten years ago. In *Garden and Forest* of August 14, 1895, page 329, will be found a full description of some three acres of these hybrids as they appeared on June 15, 1895, the first year that they gave a full bloom, and an account of the experiments and crosses which led up to them.

Of this I will give a brief *resumé*. As early as 1877 Mr. Burbank collected some bulbs of *L. pardalinum* near the Geysers in Sonoma County, North-western California. From these selections were made, and successive generations of seedlings chosen with a view to new strains. The results were remarkable. In 1892 Mr. Burbank had five or six especially good strains of *L. pardalinum* thoroughly fixed. One very low, compact, and free-flowering form was named and introduced. There were other strong colour variations, and at the other extreme a giant strain growing as high as 9 feet in the garden row at Sebastopol. There was one drawback to this otherwise excellent work in the fact that his original plants were not the best wild strain of *L. pardalinum*. There are wild strains superior to his best improved *L. pardalinum* in flower, but the Burbank *pardalinums* are splendid growers. With some of his best improved *L. pardalinums* as pistillate parents Mr. Burbank then began to hybridise on a large scale. The staminate parents used were *L. auratum* many varieties; *L. Batemannii*, *L. Brownii*, *L. candidum*, *L. Catesbaei*, *L. chalcidonicum*, *L. elegans*, *L. Humboldtii*, *L. longiflorum*, *L. Martagon*, *L. maritimum*, *L. Parryi*, *L. parvum*, *L. speciosum*, *L. tigrinum*, *L. wallichianum* superbum, *L. washingtonianum*, and *L. washingtonianum* purpureum.

Besides these hybridisations with *L. pardalinum* as the pistillate flower, *L. Humboldtii* and some other Pacific Coast Lilies were used to a small extent. No close record was kept of the seed produced, but it was all sown, and I saw the seedlings at a year old, some 400,000 or so. Four years later I saw them in full flower near Sebastopol. Just how many there were would be hard to say. Mr. Burbank estimated 100,000, and there were about three acres solid in nursery row form. In the absence of any segregation of the various crosses we could only judge the pedigree

of any plant by its peculiarities. At the time I thought I could see traces of the influence of the old world and eastern United States species, but my present opinion is that all of those crosses were either failures or reversions to the pardalinum type. That all the Pacific Coast hybrids were successful there was ample evidence in the seedlings. The growing of so many seedlings, beginning with the *L. pardalinum*, entailed a long course of elimination of weaker forms, and I suppose that 2,000,000 seedlings had been grown. The variations were exceedingly numerous, and many were very fine. Judging by the characters, the hybrids could have been grouped into five sets:—First, *L. pardalinum* × *L. washingtonianum*. In these the range was from a fragrant pardalinum to the best type of what is now known as *L. Burbankii*. All of these were distributed. The name *L. Burbankii* is an unhappy one, and should be dropped, for I see no way of now confining it to the best of these much varied forms of *L. pardalinum* × *washingtonianum*; second, *L. pardalinum* × *Humboldtii*; third, *L. pardalinum* × *Parryii*; fourth, *L. pardalinum* × *maritimum*; fifth, some untraceable hybrids.

From the large number of plants in the field Mr. Burbank selected the best. Seeds were saved from some of them, especially the *L. pardalinum* × *Parryii* cross, and probably 1,000 flowered two years ago. These were better than the first generation. In the meantime the gopher, most destructive of our rodents, had sadly reduced the original selection. The best of all I fear is lost. Two years ago Mr. Burbank gave into my care all

of the original selections of groups two, three, and four, and a year later I selected the best of the second generation, and now all are at Lyons Valley and thriving. The conditions there are very favourable, and so far I do not think I have lost one. There are four sets of them, each with strongly marked traits:—

First.—*L. Humboldtii* × *pardalinum*.—Of these there are probably 100 forms and 300 to 400 strong bulbs. A hybrid more perfectly combining the two parents could not be imagined. In every case the bulb is large, with long, unjointed scales, but forming clumps like *L. pardalinum*. They root very heavily, and are splendid growers. The single bulb would puzzle one to name; it would never be taken for a pardalinum, but is more like some unusually long, narrow *Humboldtii*. The stems are stout, usually tall, and are heavy; some are smooth like *L. pardalinum*, but far more are pubescent like *L. Humboldtii*; the greater number would be unhesitatingly called *L. Humboldtii*. In every case I think the flower has the thick, heavy petals and peculiar form of *L. Humboldtii*, but in colour there is every extreme, from an almost typical *L. pardalinum* to all but the clear orange of *L. Humboldtii*. One only lacks a trifle of that extreme, having a few faint flecks of crimson on an orange ground. One of the finest is *L. Humboldtii* var. *magnificum* in all but the bulb. I have long believed that the latter owed its origin to this same cross.

There is an embarrassment of riches among these hybrids. Every one is a good grower, handsome, and worthy of perpetuation. I have

selected some eight or ten of the very best, from which a further selection of two or three will be made. It will be at least five years before the public can have them. There is one thing to be hoped for from this cross, and that is a typical reddish orange *Humboldtii* flower with the splendid constitution of pardalinum. To this end another generation of seedlings will be reared from plants showing that tendency. A photograph sent shows a fine flower with crimson tips, otherwise *L. Humboldtii*. The stalk was fully 7 feet high.

Second.—*L. pardalinum* × *maritimum*.—Probably a single plant selected by Mr. Burbank: one of many on similar lines (all now lost) has been propagated until there are something like 100. The bulb is rhizomatous, and it is a good grower and very floriferous. A photograph sent shows its habit well. The almost campanulate flowers, standing horizontally, have a deep crimson ground. It is showy and good.

Third.—A group of wonderfully heavy, strong bulbs of the pardalinum class, the produce of a single section. The stems are also very stout, the flowers very large, of the pardalinum type, but spreading broadly before turning back. The main colour is a deep crimson heavily

spotted. The fact that *L. pardalinum* is one parent is apparent enough, but I have no idea what cross could so broaden and flatten the flowers. As a whole it is very showy, although singly the flowers are a trifle heavy.

Fourth.—*L. Parryii* × *L. pardalinum* in first and second generation.—Of these there is a clump each of perhaps fifty, and of twenty of them it might be said that any one would be a decided acquisition to the garden. They are no such rampant growers as some of the other hybrids, but that they have gained considerable vitality through the pardalinum is proved by the fact that neither *L. Parryii* nor *L. parvum* do well in the adjacent ground, while the hybrids are very healthy plants. They have the slender habit of *L. Parryii* and either revolute or trumpet-shaped flowers, but faintly dotted. In colour they range from pale lemon to the lemon of the typical *L. Parryii*, and they are fragrant. The two flowers in the photograph are from different plants. The finest one is as revolute as *L. pardalinum*, and a clear lemon colour. It is equal to any known Lily. Several are much paler and trumpet-shaped. The hybrids showing a tendency to *L. pardalinum* have, with a few exceptions, been eliminated by selection. These few I am giving space to as interesting plants, but what the gardens need is not new forms of *L. pardalinum* but a truly vigorous plant of the *Parryii* type. I am propagating all the best of the *L. pardalinum* × *Parryii* by scales, but it will take at least another year to make a final selection of the best, and years after to propagate a stock.

Mr. Burbank's experiments in Lily hybridisation have been the most extensive ever undertaken. It is really too bad that his name could not have been attached to one of these splendid forms which from the first he recognised as the best, instead of to a nondescript medley, the very best of which would be to his credit, but a great many of which were equalled by thousands of forms which he eliminated. The multiplicity of forms in that three-acre field in 1895 was amazing. Thousands of plants could have been selected as distinct as many recognised species.

The task of selection was indeed a difficult one, and is most troublesome in the last stage, when the choice must be between forms all of which are unusually good.

Ukiah, California, U.S.A. CARL PURDY.

[With this article Mr. Purdy kindly sent several photographs, the greater part of them, however, could not have been reproduced.—EDS.]

PROPAGATING TREE PÆONIES.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—Will you kindly tell me how Tree Pæonies can be propagated otherwise than by grafting. If by layers or cuttings, please give as detailed directions as your usages will permit. Can Tree Pæonies be raised from seed? If so, please tell me when the seed should be planted, and how long it is in germinating. I assume that seedlings would revert to the commoner type of bloom.

Massachusetts, U.S.A. JOHN A. AIKEN.

[We hope that some successful growers will be so good as to give their experience. It is always a matter of regret, and no doubt a source of frequent failure in the growing of Tree Pæonies that the soft root of one of the herbaceous kinds should be used as the stock for the woody scion.—EDS.]

CHINA ASTERS.

HARDLY any flower has been more improved of late years than the China Aster. A few years ago, although the varieties were already numerous, it was hardly possible to get any that were not more or less spoilt by the striving after a rather unworthy ideal, the aim appearing to be to stunt the plants and to crowd the flowers with too many petals.

For the last two years THE GARDEN has frequently appealed to growers on behalf of



LILIUM WASHINGTONIANUM—NORTHERN CALIFORNIA AND COAST RANGE FORM.

the thousands of amateurs of good taste who require something better of the China Aster. Whether it is in wise as well as courteous response to our pleading we cannot say, but now there are quite a good number of kinds of Asters that are really beautiful garden flowers, beautiful not only in the size of bloom but of whole aspect.

The Comet Asters were a definite step in the right direction, and, though the old tyranny began to make itself felt in the way of keeping them dwarf, the better way has also prevailed, and now we have them of free growth. Whatever may be wanted for market purposes, for gardens we want the free-growing Asters, such as Vick's Late, and the tall branching kinds that are both graceful in growth and long stalked for cutting. We have known of more than one private place with a good garden where a few years ago Asters were forbidden because they were dumped and stunted out of

colours if they can possibly obtain better, and now that the better things may be had they will not be slow in welcoming them.

We may even make so bold as to say to the more timid amateur, who says "I do not like China Asters," that he cannot know what the newer flowers are like, for there can be no two opinions as to their beauty and desirability for our gardens.

VERONICA.—II.

It is not intended in these notes to attempt anything like a monograph of the 200 species of the genus *Veronica*, or even of all those grown in English gardens. All that the writer proposes is to describe those which he has cultivated in his garden at Edge, and has retained as worth their room. It cannot be claimed for the tribe that it supplies our borders with many first-class ornaments. Indeed,

autumn. The same shrubs do not flower all this time, but the flowering is in succession according to the age and situation of each. Seedlings come up all over the garden, and are easily transplanted in spring to any convenient place. They grow about a foot a year, and flower freely when a foot high, each living four or five years, and making a dense bush. The older the plants the more tender they become. The colour of the flowers is white with pale blue anthers. This species is not so common in gardens as it deserves to be; it was cultivated by Miller in the eighteenth century, and is described in his dictionary. Several dwarf kinds of this class make good rockery plants. *V. pinguifolia* and *V. carnosula* are fairly hardy, bearing pale blue flowers in June, and having leaves rather like those of Box; they do not exceed a few inches in height. *V. chathamica*, *V. cupressoides*, and *V. epacridea* are generally even dwarfer, and have pretty evergreen foliage. A less hardy species, *V. hulkeana*, always ornaments my greenhouse as a pot plant in February, and in warmer gardens flowers in spring without protection.

The harder kinds, commonly called herbaceous, may be divided for convenience into those which grow erect, flowering in a terminal spike, and those which flower from the axils of the leaves, with a terminal shoot of leaves often hidden amongst the flower spikes. Besides these, there will be a few prostrate and dwarf forms to be noticed. Almost the tallest of the spiked kinds is *V. virginica* (syn. *verticillata*), the only one with leaves in whorls. It is a native of North America, and grows 4 feet or 5 feet high, with unbranched erect stems, well clothed with broadly lanceolate leaves. At the top is a slender elegant spike, nearly a foot long, of rather dull white flowers. At the base of the peduncle three or four secondary spikes grow in an oblique direction. The species has a distinct variety less tall than the type, with the spike shorter and less pointed, deflexed from near the middle, like that of *Cimicifuga racemosa*; the colour is dull purple; the secondary spikes are still more deflexed. These two forms seem to cross spontaneously, the offspring being more robust and taller than either parent, reaching 6 feet high,

with very straight spikes of lavender colour. All these forms are elegant in habit, and maintain a close and regular growth, a bunch of twenty stalks or so forming a fine back row plant, which continues without requiring attention for many years.

When I said the species was nearly the tallest herbaceous *Veronica*, I qualified the expression because I had in mind one which I grew about twenty years ago, which was even taller and quite distinct from any other I ever saw, bearing a blunt clumsy spike of dull blue on a thick erect stalk fully 6 feet high, with a few coarse leaves in opposite pairs. I quite forget where I got it, but on sending it to an expert to be named it was returned as *V. proculta*, which seemed to fit it well enough. I have since looked out this name in "Index Kewensis," and find an incredulous Quid (?) after it. Two references are given, one being Loddiges's "Catalogue of Hardy Perennials," an interesting enumeration of nearly 2,000 of these grown in English gardens about A.D. 1825; the other Sweet's "Hortus Britannicus," a work of



CALLISTEPHUS SINENSIS (CHINA ASTER TYPE). A beautiful tall-stemmed purple flower.)

all beauty, and, excepting the whites, were of a range of rank colours of the aniline quality.

Now there are beautiful colours to be had as well as plants good in form. In the reds, instead of the old garish pinks and crimsons, there is the grand blood red and soft shades of rose colour and lavender purples of charming qualities, besides the grand single Aster sinensis now well known, and such a fine garden plant for the last half of September.

Let anyone who does not know the newer and better Asters grow the Giant Comet, white and salmon-rose, and study the latest seed lists for kinds that are tall and branching, and ask for the newer colourings of flesh colour, scarlet (so-called), blood red, and the light purples inclining towards blue. The white colourings in the free-growing Asters are always good for cutting.

Seed merchants will do well to impress upon their growers the need of these free-growing Asters of good colouring. Amateurs are now so wide-awake that they are not content to put up with the old dumpy Asters of bad

if we exclude the shrubs which come from our antipodes, very few of which are really hardy, the number of species to be mentioned is not large, but perhaps some of them deserve more patronage than they generally meet with.

First, with regard to these tender shrubs from New Zealand and Australia, they thrive well in the seaside gardens of the west and south coasts, but in the cold soil of Cheshire hardly half a dozen kinds survive a hard winter. Twenty-five degrees below freezing kills nearly all of them. The hardiest is *V. Traversi*, a spreading bush growing 4 feet or 5 feet high, with short spikes of grey flowers late in July, and glossy green leaves in decussate arrangement, that is, in opposite pairs crossing one another alternately, an arrangement which in this shrub has an unpleasing formality. Another, *V. parviflora*, nearly as hardy, is a great favourite at Edge, and is encouraged in all parts of the garden. The leaves are long and narrow, and from their axils grow graceful flower spikes in opposite pairs, lasting from early in July late into

about the same date, which I have never seen. I did not keep the plant, judging it better suited for a botanic garden than for an ornamental border. *V. gentianoides*, native of Asia Minor and Greece, may be mentioned here, though not flowering, strictly speaking, in a spike. The leaves are supposed to bear some resemblance to those of a *Gentianella*. It makes leafy flower stems more than a foot high from a spreading breadth of basal leaves. The flowers begin at about half the height, and are large, alternating with leafy bracts; they come in June. I have grown three distinct forms. The type has tomentose leaves and grey flowers veined with purple. Another form has whiter flowers, with smooth glossy leaves, and there is a variety of this last with the leaves edged with white. *Botanical Magazine*, t. 1002, has rather a flattering portrait of the plant.

C. WOLLEY DOD.

Edge Hall, Malpas.

P.S.—I omitted to mention that the variety of *V. virginica* above described is also known by the names of *V. sibirica* (Linnaeus) or *V. japonica* (Steudel), and to gardeners seems distinct enough to make a species.

C. W. D.

AN ARTIST'S NOTE-BOOK.

EUCALYPTUS GUNNII.

THIS species has rather a wide range, being found from South Australia to New South Wales, and also in Tasmania, but always I believe on the higher mountains, and probably in a dry soil, but I have been able to find no details on this point in any of the books I have access to. It is one of the smaller species, its height in its native country being given as about 30 feet. It is said (in "The Dictionary of Gardening") to be "perhaps the hardiest of all the species," and my own experience shows that it is really "hardy" in the south of England, and probably in the north also. The tree I now possess was raised by me from seed in 1887 or 1888 at Godalming. In June, 1889, I brought it to Parkstone in a pot it being then about 15 inches or 18 inches high. It was at once planted on a bank of gravelly soil and about 20 feet from a deep railway cutting, so that its roots were free from all superfluous moisture. Its first winter, 1889-90, was mild, and it grew rapidly till the succeeding winter, when it was, I think, 6 feet or 7 feet high. The

winter of 1890-91 was the first of a series of five which were exceedingly severe, but long continued frost did not seem to injure this tree in the least, and it quickly grew above all shelter. Even the tips of the growing shoots

forming a fine bushy tree. But in the spring of 1897 a very heavy fall of snow, which did great damage to both trees and telegraph wires, broke off about 8 feet or 10 feet of the leading shoot. This caused one of the lateral branches near the ground to increase and grow upwards, so that the tree now divides near the ground and seems to have two stems and a fine bushy head. It has flowered regularly for the last five or six years, but more abundantly this year than usual, and as the flowers were in perfection at Christmas they are very acceptable, though not either large or highly coloured. The form and the delicate glaucous and somewhat reddish tints



EUCALYPTUS GUNNII IN FLOWER.

(VERY SLIGHTLY REDUCED.)

(Drawn by Miss I. M. Charters.)

were only occasionally cut by the frost, while it bore the strongest gales, which caused its leading shoots to bend and lash about like a slender whip-handle, with complete impunity. In 1896 it had reached a height of about 25 feet and was of a fine pyramidal shape with a straight stem and many lateral branches,

of the foliage and young shoots are however very beautiful.

The trunk of this tree now measures 3 feet 6 inches round at a foot above the ground, and it is I think about 30 feet high, while there seems every probability of its growing somewhat higher. It has stood such severities both of frost and wind that I doubt if our very severest winters will injure it, and it apparently requires only a dry and gravelly soil to grow rapidly into a very beautiful small tree.

ALFRED R. WALLACE.

Parkstone, Dorset.

THE INDOOR GARDEN.

THE CULTURE OF BOUVARDIAS FOR AUTUMN AND WINTER FLOWERING.

MANY visitors to the last Chrysanthemum exhibition noticed the fine exhibit of Bouvardias shown by M. Fargeton, nurseryman of Angers. This circumstance reminds one of the value of these charming plants.

A few years ago the white, summer-flowering, and sweet-scented Humboldtii corymbiflora was practically the only variety grown. This was replaced by one obtained by M. Bourbon, horticulteur of Paris, B. H. Bourbonnei, much superior to the old B. Humboldtii. The flowering season of this Bouvardia commences at the end of July and is not over till the end of September, but a new race, named *florifer*, is, as its name indicates, better still, both as regards the quantity of flowers and particularly the duration of the flowering season. These free-flowering Bouvardias constitute a series of charming hybrids, both single and double-flowered, pink, red, orange-scarlet, pale yellow, and flesh-coloured, with different tints in each colour. Most of these varieties have been sent out by M. Lemoine, of Nancy, and M. Schmitt fils, of Lyons. All are much appreciated in England, Belgium, and in the North of France, where they are grown especially for their winter flowering. With a little care they will form beautiful, well-foliaged pot plants, very effective for the decoration of conservatories and rooms, but their great recommendation is the profusion with which flowers are produced from June to February or even March. The varieties of hybrid Bouvardias are somewhat numerous. It is preferable, however, to cultivate only a certain number of the best, such as the following:

SINGLE-FLOWERED VARIETIES.

Alba odorata, rosy white, with large flowers; Bride of Brooklyn, pure white; Brilliant, scarlet; Cocinea, bright red; Davisonii, rosy white; Dazzler, bright pink; Maiden Blush, soft pink; Mme. Queen, salmon pink; President Cleveland, scarlet, very fine; and Rosalinda, bright pink with large flowers.

DOUBLE-FLOWERED VARIETIES.

Alfred Neuner, white; Hogarthii flore-pleno, crimson; Schmittii flore-pleno, rose, with red reverse; President Garfield, pale rose; Sang Lorrain, bright red; and Lemoinei, red.

PROPAGATION.

In February cut back the plants and move them to a warm house; keep close and moist and they will quickly produce shoots which will form cuttings. Remove these at the end of March, making them about 1½ inches long, below an eye, or secure them with a heel wherever possible. Then they should be pricked out in sand and kept in a close atmosphere at a temperature of about 60° Fahr. They root in about a fortnight.

COMPOST, POTTING, &c.

When the cuttings are well rooted they should be potted singly into small pots in peaty, sandy soil and placed in a temperate house and kept at about 50°, or, preferably, put upon a spent hot-

bed until established. At the other repottings use a compost of thirds of fibrous loam, peat, and leaf-mould, to which has been added a little silver sand, the whole to be prepared well in advance. The pottings should be firm, and good drainage is essential.

SUMMER CULTIVATION.

Once the cuttings are well established in small pots they should be pinched slightly in order to induce a bushy habit. When the ensuing buds are well developed the plants should be repotted in 4-inch or 6-inch pots, according to their size. At the end of May they may be placed in the open air, to which they should have been gradually accustomed by placing them in a warm sunny position with the pots buried to the rims. One month after repotting the plants commence to flower. After flowering they should be well pruned back. The plants are capable of flowering four times, viz., at the end of June, in August, at the end of October or commencement of November, and from December to February. After September 15 the plants should be returned to a house whose temperature is from 55° to 60°, or placed in frames, kept as close to the glass as possible, and well ventilated every day. It is better to keep them rather damp than dry in order to avoid the disease which readily attacks the leaves of this plant.

RESTING.

After the final flowering the plants should be allowed to rest for a month or six weeks. This is attained by ceasing to give water and by placing them in a dry situation as close as possible to the glass. Great care must be taken to remove all leaves as they become yellow, as if allowed to fall they cause the wood to rot. In March prune back the plants, making them shapely, and remove all badly placed shoots. Recommence watering at once, and, when the new growths have well started, repot in the compost indicated above. Treat afterwards in the same manner as plants obtained from cuttings.—JULES RUDOLPH, in the *Revue Horticole*.

AMERICAN NOTES.

VICTORIA TRICKERI.

VICTORIA TRICKERI was introduced in 1894 and was provisionally named *Victoria regia* var. *Trickeri* until more accurate information as to its identity and habitat could be obtained. It was claimed by some to be nothing more than a garden form of *Victoria regia* raised from seed of the original type grown in a cooler climate. Among other places it was grown at the Royal Gardens, Kew, England, also at the Glasnevin Gardens, from seed ripened in New Jersey, where it excited no little comment, its distinctive features being very marked. But no investigation was apparently made as to its identity. During the past six years it has been widely distributed, its character is now well known, and it is very popular wherever aquatics are cultivated. It is much more amenable to out of door cultivation than *V. regia*, and is as easy to grow as the tender blue *Nymphaeas*. It is an annual occurrence at Riverton, N.J., for hundreds of seedlings to appear in the spring of the year where this plant has been grown the previous season. Such plants will produce flowers the latter end of August and September.

Recent investigation by Dr. Henry S. Conard, of the University of Pennsylvania, and the writer shows that *V. Trickeri* is truly the *V. cruziana* of d'Ebigny, dried specimens of which were sent to Paris over sixty years ago. Information was received last season that the seed from which the original plant was raised in 1894, at Clifton, N. J., came from Corrientes, Argentina, S.A., leading to a diligent investigation and research with most gratifying results, confirming the statement that it was the Paraguayan and Argentine species once specifically distinguished as *Victoria cruziana*. Its

far southern habitat (27° S.) explains its hardness. It produces much larger seeds than *V. regia*, which are used as food in Paraguay, under the name of Mals des aqua (Water Corn).

V. cruziana d'Ebigny (known in cultivation as *V. Trickeri*) has leaves densely villose beneath, upturned margins green, 6 inches to 8 inches high, flowers becoming deep red-pink the second evening, sepals prickly only at base, smooth above. The plant grows abundantly in the Parana River and its tributaries.

Seeds of *Victorias* may be sown towards the end of January or early in February, but where the plants are to be grown outdoors March 1 is in good season. The seeds of *Victoria regia* require a temperature of about 90° to germinate. After germination a temperature of 85° is sufficient. Seeds of *V. Trickeri* may be planted any time after January 1, but must not be subjected to a higher temperature than 75°; in fact, a temperature between 65° and 75° is about right. One necessary qualification a person requires to raise *V. Trickeri* is patience. Seeds of *V. regia* will frequently germinate in ten days; at least a percentage will germinate, and a much larger percentage will germinate in twenty-one days.

I cannot state with any accuracy what percentage of seeds of *V. Trickeri* will germinate nor how soon after sowing seedlings may be looked for. I have made sowings and have never seen a plant, and again have had seed in water when apparently every seed has grown. The safest method is to plant the seeds early, either in the most approved way or drop them into a tub where other plants are growing and where the temperature ranges between 65° and 75°, and wait patiently. I do not know of an instance when I have had seeds germinate before March.

After the seedlings appear they should be potted off singly into 2-inch pots, and as soon as the first floating leaf appears repot again, and at intervals until the plants or the season is sufficiently advanced to permit of their being planted in summer quarters. During the early stages the temperature should not exceed 75°. The plants should at all times receive the full benefit of sunlight, and have free ventilation at all favourable times. The plants may be planted out in their summer quarters in May if protection is given and the water artificially heated, when the temperature of the water may be increased to 80° and 85°. Where these means are not at command it will be safest to defer planting until June, when the weather is settled and warm and the water temperature is 75° to 80°.—WM. TRICKER in *American Florist*.

BOOKS.

The Culture of Vegetables and Flowers.*—The concise, comprehensive, and valuable information given by Messrs. Sutton in the above book has been so much appreciated that it has now reached a tenth edition. Besides the excellent cultural directions given for vegetables, hardy and greenhouse flowers from seeds and roots, there is a chapter dealing with lawns and tennis grounds from seed, that contains many valuable hints upon the formation and improvement of the lawn. The pests that attack plants and flowers are also considered at length, and the notes made additionally interesting by the inclusion of numerous sketches. "A Year's Work in the Vegetable Garden" and "Flowers all the Year Round" are the titles of chapters wherein are given full directions as to what to sow and plant month by month throughout the year. These cannot fail to be of great help to many. It is an excellent work, and should be in every garden library.

Insect Life.†—A very interesting book has just been published on the habits of certain insects, the author of which is the celebrated French ento-

* "The Culture of Vegetables and Flowers," by Sutton and Sons, Reading. Published by them and by Simpkin, Marshall, and Co., Limited, 32, Paternoster Row, London. Price 6s.

† "Insect Life: The Souvenirs of a Naturalist," by J. H. Fabre, Macmillan and Co. Price 6s.

Beurre Perran is a shapely fruit, and grown on a warm wall is of fine flavour, and the same remarks apply to the new

Beurre Fouquieray, a Pear not unlike Bachelier in build and colour, but much superior in quality; it is an excellent October and November variety. Those who admire Pears of the Pitmaston size will find

Charles Ernest a fine fruit, as it is later than the older variety, and well flavoured. I am very interested in

Marguerite Marillat.—This is early, but very good, having a rich flavour, is remarkably handsome, and makes a grand cordon variety. With us it ripened in the middle of September grown on a warm wall.

Of older varieties very little can be said but what has been noted previously, and of course as regards quality the Doyenné du Comice heads the list. With us it is not so free as some varieties, and I would advise growers who have ample space to grow this Pear on different walls. Some of our best fruits were on a north wall, and by having trees in different positions there is a better chance of a crop. A grand winter Pear, not grown nearly as much as it deserves, is

Nouvelle Fulvie.—This is our best Pear at this season, and it crops well: indeed, it is much superior to the Josephine de Malines, but the last-named should be in all gardens on account of its keeping properties. The well known

Beurre Diel cannot be omitted. It is not a success everywhere by any means, but given a well drained soil it is a grand Pear, and one of the best on a wall and a regular cropper on the Quince stock (in the north near the coast I have seen remarkable crops), and of good flavour. It is not suitable for heavy, wet soils. Such varieties as Louise Bonne of Jersey, Marie Louise, Emile d'Heyst, Beurre Superfin, Princess, Thompson's, Olivier de Serres, where it succeeds, are all excellent wall varieties, and to these should be added President d'Osmonville and Triomphe de Vienne, a splendid early autumn variety and a very free bearer. There are several others well worth noting, but mere variety is not needed; indeed, my advice would be to plant fewer varieties and more trustworthy ones. G. WYTHES.

MISCELLANEOUS.

ORNAMENTAL GRASSES.

THEIR USES, SELECTION OF VARIETIES, &c.

THE increased refinement in horticultural taste has in recent years brought into prominence several classes of plants which were formerly neglected for ornamental purposes. The lack of brilliancy of colour, in days gone by, usually gave the verdict against the Grasses, but now, when their beauty of form, their usefulness for bouquets, and drying for winter decorations are considered, they are more sought for.

The ease with which Grasses as a family are grown is well known, but one point is often neglected, viz., their need of space; they are too often crowded together for want of proper thinning. The most suitable places for Grasses in gardens are the backs of borders, rockeries, shady nooks, corners, &c., according to the habit and form of the species. The hardy kinds may be usually sown in the open ground, but unless the weather is showery at the time it is well to place a bell-glass or frame over them until they germinate.

Half-hardy varieties may be sown in pots in the early months of the year, or out of doors in May, June, and July. They should be freely watered in the absence of rain, especially on well drained soils. As soon as the tops die down most Grasses may be cut down, and their roots well mulched with manure, or divided if multiplication is wanted. The following selections, in two divisions of tall and short, comprise some of the best:

TALL KINDS USEFUL FOR BACKGROUND, GROUPING, &c.

Arundo conspicua.—A hardy perennial species, and a worthy rival to the beautiful Pampas Grass.

It is easily grown in any common garden soil. The varieties are propagated by division or well-developed stems; if cut off and thrown into water these soon produce young plants at the node. *A. conspicua* blooms a month earlier than the Pampas Grass, and is on the whole of a more stately and graceful contour. *A. Donax* is also very useful for shady nooks and such places on lawns and elsewhere, its height being from 8 feet to 12 feet, *A. conspicua* being from 5 feet to 6 feet in height. The variegated variety *A. Donax versicolor* is extremely handsome and useful, with its leaves ribboned with creamy white; it must be well protected during winter.

Phyllostachys aurea.—For ornamentation there is scarcely any plant so graceful and handsome for dotting either in herbaceous borders or singly as specimens on lawns. This Bamboo is hardy, but during severe weather it should be protected with litter. Success depends on well-drained soil and a favourable exposure. Its height is from 6 feet to 10 feet. Besides this there are other desirable species, such as *Bambusa Metake* and *B. nigra*; indeed, all are graceful and beautiful.

Erianthus Ravenne.—A perennial and very noble species with silvery plumes. It is tolerably hardy and easily raised from seed. Height about 6 feet.

Eulalia japonica zebrina.—This Japanese Grass is now well known. The foliage is banded crosswise with yellow. It is of robust growth, and has tufted panicles of brownish bloom. Well-drained soil is essential. Its height is about 7 feet.

Gynerium argenteum (the Pampas Grass).—The grandest ornamental plant yet discovered. With its magnificent silvery plumes rising in the autumn to a height of 9 feet or 10 feet, few plants present an appearance of such striking beauty. It should be grown as a specimen in a conspicuous position on a lawn or elsewhere, succeeding best in a well-drained light and rich soil. For immediate effect two or three plants should be planted together.

Zea japonica.—This useful variety of Indian Corn is a valuable decorative plant from 3 feet to 4 feet in height. It is well adapted for effective positions in clumps or shrubberies. The variation comes true from seed, which is sown in heat during February, March, or April, or outside in May.

All these with the exception of the *Zea*, being perennial plants, require protection during winter by the application of litter; those whose tops wither should be cut down in autumn.

The following Grasses are dwarf, and are well adapted for

EDGING AND HERBACEOUS BORDERS.

Agrostis nebulosa, one of the lightest and most graceful of all Grasses, is easily grown. It is sown in autumn or spring. The height in bloom is 1½ feet. The other variety, *A. pulchella*, is dwarfier; it is valuable in bouquet making and drying for winter decoration. It is hardy, and blooms in July and August. Height, 1 foot if sown in autumn, shorter if sown in spring.

Avena sterilis (the Animated Oat) is a very beautiful Grass with drooping panicles of large spikelets. These when ripe and dried will, if placed upon the warm hand, often move by the contraction of the hairs by which they are covered, hence the name. Sow in autumn. Height, 2 feet.

Bria gracilis and *B. maxima* (the Quaking Grasses) are extremely handsome and of great value in dried winter bouquets. They are annuals 1½ feet high.

Coicelachryma (Job's Tears) derives its name from its peculiar grey pearly seed, which hang in clusters out of the sheaths. The foliage is thick and massive. It is an annual 2 feet to 3 feet high. Sow in heat during March.

Lagurus oratus (Hare's Tail Grass).—A beautiful hardy annual, with white downy tufts on stems, 1 foot to 1½ feet high; it is useful for bouquet work.

Lamarkia aurea.—An annual with pretty drooping panicles, assuming when mature a beautiful golden colour, about 9 inches high.

Panicum variegatum and *Eragrostis elegans*, or *Panicum capillare*, are decidedly handsome Grasses. The former is a trailing kind adapted for pot work; the leaves, about 2 inches long, are

elegantly striped with pink and white. The latter is a strong growing hardy annual with broad foliage. The panicles of flower are much branched and of a rich purplish colour. Sow out of doors in May. When once sown it will reproduce itself. It is useful for bouquets, &c.

Pennisetum longistylum is one of the most elegant of the Gramineae. It is a hardy annual, about 2 feet in height, with arched leaves, and graceful plume-like spikes. In light loamy soil its growth is very rapid; it is ornamental either alone or in groups. Sow in heat in March or April, and prick out in May, 1 foot or 2 feet apart. It requires mulching in winter.

Stipa pennata.—This hardy perennial rises to a height of 2½ feet, forming a large bunch of undulating feathers, covered with a silvery down. A charming plant in the mixed border and for other use. It succeeds well in light, sandy, barren soil. Sow from April to July, and thin out to 1 foot apart. The feathers arrive at their maturity in June, when they should be cut and preserved for the making of winter bouquets.

The above selection will be found useful in a variety of ways; what will not do for bouquet work will be more than useful in the herbaceous border. Give the plants enough room and they will do the rest. JOHN DENMAN.

Brynnella, Tremeirchion, St. Asaph.

ROBINIA PSEUDACACIA.

THOSE who only know the False Acacia or Locust Tree by the cropped, mop-headed specimens often seen in suburban gardens, would fail to recognise it from the accompanying illustration, which represents it in the picturesque garb of a naturally grown, mature old veteran. It is in the garden of Sir F. Tress-Barry, Bart., M.P. From the period which has elapsed—about 260 years—since its introduction, we should expect to see more of these old specimens about, for it is handsome, both by reason of its leaves and flowers, and even in winter its bare, twisted, uncouth branches, rough, deeply-furrowed bark, and distinct habit stamp it as one of the most interesting trees of the garden. Its beauty in summer when smothered with drooping racemes of white blossoms is well known, for it flowers freely even in a small state. In addition to being an excellent tree for park or garden, it is one of the best trees for towns, and valuable for street planting. A number of varieties are in cultivation of which the following are a few of the most distinct: *angustifolia*, with smaller leaves and leaflets than the type; *bella-rosea*, *decaisneana*, *decaisneana rubra*, and *robusta Vignei*, with rose-coloured flowers; *fastigiata*, with pyramidal habit; *aurea* and *variegata*, with variegated leaves; and *rozymskiana*, with very long pendulous leaves. W. DALLIMORE.

GARDENING OF THE WEEK.

FRUIT GARDEN.

MORELLO CHERRIES.

WITH reference to the training and pruning of Cherries, a common mistake is frequently made in unduly crowding the trees with wood, and thus under any circumstance excluding the sunlight and air to an injurious extent, but in a most aggravated way where the trees are placed upon north walls. This evil begins in the summer when the young wood is laid in, and in cases where it has been practised bold measures should now be taken by skilfully thinning out the weakly and badly placed shoots in such a way as to well furnish the trees with fruitful wood, placed at 4 inches

apart over their entire surface, and this irrespective of older wood, which having been kept free of spurs will not produce foliage. In all cases where old branches can beneficially be wholly or partially sacrificed for the sake of making room for young wood it should be done, and in this way by intelligent management old trees possessed of satisfactory roots and borders may in a great measure be invigorated. Young trees should be trained to form perfect fans, and their strong leading growths shortened to cause enough subsidiary growths for this purpose to break, while bush trees merely require to be freed from useless old wood, properly thinned, and kept within bounds.

APPLES AND PEARS.

Bush and pyramid trees must possess various properties in order to make them satisfactory specimens, and the way they are pruned has an important bearing upon this matter. The branches of a perfect tree should be properly furnished with spurs, radiate symmetrically from the stem, and be sufficiently thin for the sun to reach the centre. To attain this end newly planted young trees should be furnished with an adequate number and no more of offshoots emanating from the stems, which should now be shortened more or less according to their strength, to about two-thirds of their length, and to a bud inclining outwards. The leading stem growth is similarly treated. Extending shoots upon older trees, left at the time

of the summer pruning, should be managed in like manner, superfluous ones where they exist being cut back to three basal buds, while old-established specimens should, where much crowded, have their spurs thinned, as previously directed for trees upon walls. Some varieties, both of Apples and Pears, are, with regard to furnishing spurs, very different to others, and need

DIFFERENT TREATMENT

with respect to pruning to obtain the desired object: for example, young growths of Cox's Orange Pippin Apple do not need to be so severely cut back as do those of Golden Noble in order to cause them to fully clothe themselves with spurs.

STANDARD TREES.

The management of these with reference to pruning differs from the foregoing, in so far as it is not advisable to restrict growth in the same degree, but rather to permit its freedom in a more natural way. Periodical thinnings from the time the trees are quite young are necessary in order to keep them sufficiently thin for the sun's light and warmth to properly penetrate through them. It is impossible for trees crowded with foliage to yield good fruit except upon the exposed ends of their branches. Those, however, that have been for years neglected in this way, when severely thinned, usually receive a check, which takes them a long time to recover. Such trees as it is intended to re-graft may now have their branches cut back,

and matured shoots of approved varieties should be selected for scions from prunings and laid in soil under a north wall in readiness for use at a later date.

THOMAS COOMBER.

The Hendre Gardens, Monmouth.

KITCHEN GARDEN.

MUSHROOMS.

In many establishments a constant supply of these is expected, and to ensure this the cultivator must have at command plenty of good fresh horse manure, when, if properly prepared, little difficulty should be experienced in obtaining them. Fortunately, elaborate structures are not necessary. Oftentimes the best results are produced in some old and disused building, but no doubt an ideal place is a cave or cellar, where an even moist temperature can always be maintained without the use of fire-heat. I venture to say more failures are due to this than to any other cause. Good results may easily be obtained from a lean-to shed on the north side of a wall, which should be well thatched on the inside, both roof and sides, with a good thickness of wheat straw, and when this is well done good crops may be taken at any season of the year, but during severe weather in winter the beds should be well covered with soft hay and the growth will be much improved. If the material which is being prepared is placed inside and turned every morning the heat and ammonia are just what is required.



THE FALSE ACACIA OR LOCUST TREE (ROBINIA PSEUDACACIA) AT ST. LEONARDS HILL, WINDSOR.

July and August are, as a rule, the two months in which it is most difficult to keep up the supply, unless beds are made up in the open, choosing the north side of a wall or the coolest place available. And if the beds are made of a good thickness, either ridge-shaped or in a slanting position against the wall, large quantities may be relied on, and if the beds are properly attended to these will continue to yield good Mushrooms for months. As a rule the beds are a long time coming into bearing, and the manure should be prepared and the beds made up during February and March. Preparing the material is of far more importance than many suppose. Collect sufficient manure in as short a space as possible, retain all but the very longest litter, which means that the beds will remain in bearing for a much longer period than is the case when this is all removed. Place in an open shed and turn every other morning for a week or ten days, after which it may be placed together in a smaller compass. After the heat is declining the beds should be made up but not spawned for several days. Sticks should be thrust in and tested every morning, and when the temperature is on the decline and about 80° it will be safe to do so. Defer soiling the bed for a week or ten days, using good turfy loam passed through a $\frac{1}{2}$ -inch sieve to the depth of 2 inches.

ASPARAGUS BEDS.

These, if not already done, should at once receive a thorough dressing of half-rotten farmyard manure, and sufficient soil should be taken from the alleys to cover the same. This should be done in a neat and tidy way, a matter of no small importance to the appearance of the kitchen garden during spring. Introduce small quantities under glass fortnightly; very little heat will be required to start it into growth as the days lengthen, and the quality will be much better than if forced too hard.

SPINACH.

That which was sown during autumn has done well here this season. A slight dressing of fresh soot will prove very beneficial at this season if the weather is open, and the surface soil should be stirred over with the Dutch hoe on a fine day. Make a small sowing on a south border where the winter crop is at all short. Trenching and digging should be pushed forward with all possible speed in fine weather, but avoid doing so, especially on heavy land, whenever wet.

E. BECKETT.

Aldenham House Gardens, Elstree, Herts.

THE FLOWER GARDEN.

CLIMBERS on walls should be attended to now without delay. It would be difficult to lay down any hard and fast rules to regulate or determine the actual manner in which the different climbing plants ought to be pruned and trained, because circumstances and the position in which they are growing have much to do with this, but as a general principle the chief consideration is to prevent the plants becoming overcrowded. Such as Jasmine and the *Cratægus Pyracantha Lelandii* are benefited by being slightly spurred every winter, while others require the knife but little—perhaps only in removing weak growths. The more tender Roses should be left untouched for another three or four weeks. The strong growing

POLYANTHA ROSES

of the Crimson Rambler type are not adapted for walls. This is plainly demonstrated by the unhealthy yellow colour in wood and foliage assumed when grown thus, but for pergolas, pillars, and chains, where the air can pass around them freely, they are eminently suited. My practice has always been with this class of Rose to do all that is necessary to them early in October, and this simply consists of cutting out the thin weak shoots and tying in the strong ones. Planting

CLIMBERS ON TREES

has latterly become very popular, and not without reason, for the effects thus obtained are very beautiful. I remember seeing in a garden not far from London a Laburnum tree completely covered with a Wistaria, and their flowering being simul-

taneous the effect was quite delightful. The sweet-scented Vitus makes a splendid subject for planting on a large tree, as it is a vigorous grower, and is never happier than when scrambling upwards in any way. When in flower its whereabouts are easily known by its sweet odour. In planting these climbers the usual way is to dig a hole near the trunk of the tree, avoid the latter's roots as much as possible, and introducing fresh loam and manure. This is often the only way in which it can be done, but where practical I prefer planting them on the outside of the tree where the branches are nearest to the ground, and training them over the intervening distance by means of a strong stake well fixed in the ground and firmly attached to the branch to prevent the latter from swaying about. In a year or so the climber will have secured such a hold that the stake will be unnecessary.

RAMBLING ROSES.

Clematis, especially *C. Flammula* and *Polygonum baldschuanicum*, are particularly fine for adorning old orchard trees. For a gaunt Pine the Virginian Creepers, especially *Ampelopsis Engelmanni*, would make a capital plant. One can imagine its fine colour in the autumn, making a brilliant picture. *Ampelopsis Veitchii* on the stems of the least ornamental trees of the pleasure grounds proves effective, and its use in this manner is desirable. With respect to

IVY ON TREES

I would like to give a word of warning and a reminder that the present is a good time to strip ornamental trees, if not already done, of this rapacious climber. Every winter the trees should be gone over and the Ivy removed. If this has not been done annually and the work is now commenced then caution and discretion are requisite. If Ivy has once secured full possession of a tree then by all means leave it, but take every care that sound trees are safeguarded.

HUGH A. PETTIGREW.

The Gardens, St. Fagan's Castle.

ORCHIDS.

CYMBIDIUMS.

THESE are a beautiful and interesting family. Many of the species are showy, free blooming, and not difficult to cultivate. The majority are best grown in pots in the cool intermediate house. Peat and sphagnum moss with a little fibrous loam intermixed form the most suitable compost; a plentiful supply of water is needed when growing, and at that time an occasional watering with weak liquid farmyard manure, just sufficient to colour the water, is beneficial to the strong growing kinds. When the plants are inactive less water is needed, but should not be withheld so as to cause shrivelling of the bulbs.

C. lowianum is one of the most beautiful, and well-flowered specimens, such as those shown at the Temple Gardens in May, are remarkably handsome. The flowers, which are produced on long drooping racemes, twenty or more in number, are large, about 4 inches across, the sepals and petals yellowish green, with several faint sepia brown lines. The lip is cream coloured, with large erect yellow side lobes, and having on the anterior part a large velvety maroon blotch. Margined with yellow, *C. lowianum* is a strong and vigorous grower, and produces roots in abundance; it requires somewhat large pots according to the size of the plants. The cool intermediate house is the most suitable place for this species for the greater part of the year, but it should have a little more heat when finishing up its growth. *C. eburneum* is also a handsome species: the flowers are large and fragrant, pure white, and produced in erect racemes in spring. Although less vigorous in growth than *C. lowianum* it should by no means be confined to small pots, owing to the large and fleshy character of the roots. It is best grown in the cool intermediate house, likewise the following: *C. eburneo-lowianum* and *C. lowio-eburneum*, which are two handsome hybrids, offspring of the two preceding species; *C. giganteum*, *C. traceyanum*, *C. hookerianum*, *C. mastersianum*, *C.*

devonianum, and *C. tigrinum*. The two last-named, though not showy, are worth a place in every collection. *C. tigrinum* being dwarf and compact is best grown in suspended pans.

CELIA MACROSTACHYA.

This is a very distinct epiphytal Orchid. The flower stems, which are produced from the base of the bulbs in summer, are terminated by a cylindrical raceme 9 inches or 10 inches long bearing many flowers. The petals are bluish-white, the sepals deep rosy red, and the lip white. This plant makes its growth in autumn and winter, and should then have a light position in the Cattleya house, and be moderately supplied with water. After growth has finished place it in the cool intermediate house until growth again begins, and give only sufficient water to keep the bulb plump. It is best grown in pots in equal proportions of peat and sphagnum moss.

ARUNDINA BAMBUS.EFOLIA.

This is a handsome terrestrial Orchid seldom seen or heard of. The plant has slender reed-like stems 3 feet or more high, from the top of which flowers are produced in early summer, and continue to appear for a considerable time. The flowers, which grow several together, are large, having pale magenta-rose sepals and petals, and a rich rose lip, each side of the white throat being striped with orange lines. This should have a moist and shaded position in the stove free from draughts. An abundance of water should be given to the roots when growing, and the plants should be freely syringed two or three times a day in summer. At no time should they be allowed to become even moderately dry at the root. The plants are best grown in pots in equal proportions of peat, sphagnum moss, and fibrous loam, the whole being well mixed together.

F. W. THURGOOD.

Rosslyn Gardens, Stamford Hill, N.

INDOOR GARDEN.

CARNATION SOUVENIR DE LA MALMAISON.

THE layers of last July and August in 4½-inch and 6-inch pots, and later layers also, are now well rooted. These should be potted up in 6-inch or 8-inch pots, using a compost of good turfy loam (with the fine particles sifted out) two parts, peat and wood ashes one part, the other part consisting of dry horse manure, charcoal, not crushed too fine, and coarse sand. Pot firmly and give efficient drainage. Give water carefully in about a week. We pot up about half the stock in these large pots now, the remaining plants being kept well supplied with soot and manure water. These, in the smaller pots, are most useful for conservatory and house decoration. Malmaisons should be kept gently growing all through the winter season, that is to say, they must not be kept at all dry at the root, and afforded plenty of air at all times. Fumigate with NL All to keep them free from insect pests. Here we only apply fire-heat sufficient to keep out the frost; these plants flower in May. Border Carnations in pots require the same treatment, but may be grown in smaller pots. Successional plants plunged in ashes in unheated pits must be given plenty of air in favourable weather.

HUMEA ELEAGANS.

This plant requires much the same culture as Malmaison Carnations, but must be protected from frost.

Heliotrope and Fuchsias that were rooted in the autumn should be transferred into larger pots before the roots become restricted for room. A mixture of loam, leaf-mould, cow manure, and sand, suits them well. Autumn struck plants, if kept growing, make finer pyramids than old plants, they will grow to 5 feet and 6 feet by June and July. The leading growth must be kept well up above the laterals, and the side shoots pinched in order to keep the plants a good shape. Others required for standards should be grown with a single stem until they reach the desired height, when the points may be stopped, allowing four or

five shoots to grow: when these are about a foot long tie down and stop them.

THE CONSERVATORY.

This structure should be kept thoroughly clean and tidy. In arranging the various plants avoid crowding, as each plant should have plenty of room. The following plants may be made use of: Azaleas, Syringas, Acacias, Deutzias, Cinerarias, Primulas, and Cyclamens, Dutch bulbs, such as Narcissus, Tulips, Hyacinths, Freesias, also Lily of the Valley and *Lilium Harrisii*.

CLIMBERS,

such as Plumbagos, Clematis, Swainsonias, and Jasminums may be pruned and kept dry at the root until they break. *Lapageria rosea* and its varieties should have their weak straggling shoots removed, and have a thorough cleansing. If any of these require potting it should be undertaken forthwith. Use a compost of two parts peat, one part turfy loam, lumps of sandstone, charcoal, and sand, with a thorough drainage, as they require plenty of water in their growing season.

Hibbertias, Kennedyas, and *Rhynchospermum* require the same attention. Plants of *Epacris* and *Ericas* should be cut back after flowering and repotted as soon as they commence to grow.

JOHN FLEMING.

HARDY FRUITS IN SEASON.

PEAR WINTER NELIS.

THIS well-known Pear was one of a collection of winter Pears exhibited by Messrs. J. Veitch and Sons at the Drill Hall meeting of the Royal Horticultural Society, on Tuesday, the 14th inst., and deservedly received at the hands of the Fruit Committee a first-class certificate. The fruits exhibited were from a pyramid in the open. The belief has been hitherto pretty general that to grow this variety to perfection the assistance of a warm wall is necessary. The case under notice confirms my experience that in warm and favourable seasons the best results are to be obtained from this variety on pyramid trees grown in the open. Growers should make a note of this fact, and hasten to plant this, certainly one of the best and most indispensable winter Pears in cultivation, in some warm corner or other of their garden. It will be well to qualify the above by saying that in cold and unfavourable seasons this variety is a disappointment in the open, and therefore a reserve of trees on a warm wall should be provided where possible.—OWEN THOMAS.

EDITORS' TABLE.

ERYNGIUM TRIPARTITUM.

I find that my note about *Eryngium tripartitum* must have miscarried. I wish to recommend it to all lovers of hardy plants who do not grow it. All the *Eryngiums* are effective, but this one is so distinct and quaint as to be, I think, singularly attractive.—F. A. STURGE, *Coed Efa, near Mertham*.

[We thank Mr. Sturge for his good note, which must have gone astray (see THE GARDEN, January 18, page 47)].

We receive from the Rév. F. D. Horner a charming bloom, the top one of a spike, of the pure white

ANGRECEM EBURNEUM,

a native of the Mascarene Islands in the Indian Ocean.

We receive from Lady Acland an interesting gathering of

FLOWERS FROM NORTH SOMERSET,

almost adjoining Devonshire. They include *Galanthus Elwesii*, *Cyclamen coum*, one of the tender Veronicas, *Andromeda floribunda* with expanded flowers, Christmas Rose, *Anemone fulgens*, *Coronilla*, *Lonicera Standishi*, *Daphne indica*, *Laurus-tinus* (remarkably strong), Sweet Bay in fruit, Rosemary, *Garrya elliptica*, *Jasminum nudiflorum*, Pansies, Winter Heliotrope, and *Nemophila macu-*

form is sometimes met with as *V. salicornoides*, a name to which it has no claim.

V. Hectori is of somewhat taller growth, almost suggestive of some upright form of Club Moss, and is very distinct. It has pretty terminal clusters of small white flowers in summer. There are some eight or nine species, nearly allied, which are all alpine, growing at a height of from 7,000 feet to 8,000 feet, and therefore to be reckoned hardy in our climate. These Veronicas are interesting for another reason besides that of mimicry, for they have a trick of spreading out their tiny leaves at certain periods of life, and by this means assume an entirely different character.

But the days are already lengthening and life is beginning to stir in the outdoor garden. We may turn our thoughts to flowering instead of foliage plants. The leafless branches of a Witch-Hazel (*Hanamelis arborea*) are hung from top to toe with tassels of twisted gold. We catch a glimpse of a group of it through the branches of the big Pine which gives shade and shelter on the left of the rock garden.

It is an invaluable winter-flowering shrub, gay and bright as a gleam of sunshine, and charm-

ing to look closely into, with its spiral petals and chocolate-brown calices. It came to us a quarter of a century ago, by way of Holland, having been sent from Japan by Van Siebold, whose name we associate with so many fine plants, yet how seldom are our larger gardens lighted up in dark January days with a good clump of this precious low-growing tree.

SANTIFRAGA BURSERIANA MAJOR.

A cumbersome name for so small a plant. It is the first alpine to bloom in the open in the new year. A fair sized clump had many pearly buds and some full-blown flowers as early as January 12. So fair and fragile a child of the mountains, so tempting a morsel for browsing slugs, seems to deserve shelter, even if it does not ask for it, and in truth it is one of the gems in winter's crown for a cold greenhouse as may be seen at Kew in the Alpine house, which is just now being arranged for the season. The snow-white flowers upheld so daintily by their crimson stems expand more freely there, safe from all dangers, than in the open.

HELLEBORES

are just now very much to the fore at Kew. Large breadths of a good form of Christmas Rose (*H. niger*) have been planted quite recently amongst the Ferns under the trees not far from Cumberland Gate, and when established in years to come will be a fine sight. We cannot be too grateful for object-lessons such as these. A certain stiffness of straight lines in the setting might have been avoided, but time will probably mend this, and the plants will form a carpet wherein all rigid rectangles will lose themselves in ample leafage. Bear's-foot (*H. fetidus*), throwing up its tall heads of pale green flowers well above the dark, handsome seven fingered leaves of last year, stands out vividly against a sombre background of Yew and Ivy. *H. angustifolius*, a true Christmas Rose, is over in the rock garden; its pure starry sepals are no longer white and betray their real nature, but Lenten Roses (*H. orientalis*) are pushing up their bloom-buds all too soon. A very dwarf variety, not more than 3 inches or 4 inches high, of *H. viridis* has fully opened flowers, tinged with purple. A



PEAR WINTER NELIS (NATURAL SIZE).

lata. A remarkable gathering for the season, and very pleasant to receive at a time when the last mild spell has been succeeded by weather of some severity.

KEW NOTES.

VERONICA CUPRESSOIDES.

AMONGST the smallest conifers in the rock garden are one or two species of New Zealand Veronicas, not easily to be distinguished from them at a mere glance. *V. cupressoides* is a small evergreen shrub not more than 12 inches to 15 inches high, whose minute scale-like leaves are so closely pressed against the branches that the entire plant, as its name implies, curiously and almost exactly mimics some form of Cypress. It is an elegant little shrub, and where conifers are not desired can be used to supply greenery with advantage on the smallest alpinery. The violet flowers are produced in small clusters at the tips of the slender branches in summer, but it has a distinct use and value as well in the winter garden. *V. cupressoides* variabilis, though very similar, is still more dwarf, scarcely rising above a dense spreading tuft. This

good many hybrids have been raised of late years between this species and *H. orientalis*, which are interesting and well suited for wilderness planting, but none of them will out from our affections the dear old green Hellebore of our chalk woodlands. This, however, comes into flower several weeks later than most of the hybrids. *H. abschasicus* is sending up its purplish flower buds fast through its evergreen leaves; so also is its near ally *H. caucasicus*, neighbours both in their native mountains and here at the foot of the rock work, where they can compare notes, if they choose, as to the perfidy of the base English climate which is making them so hang their heads. *H. odoratus*, a Hungarian species, with green, scented flowers is following fast in their steps. We have here a good opportunity of studying these different species of Helleborus with their varieties, as they are most conveniently planted for comparison of their distinctive merits.

It is very pleasant to step out of the keen, biting air into the Alpine house, where *Narcissus corbularia monophyllus* and many another early flowering plant besides Burser's Saxifrage are opening their buds, happy in the shelter. Not exempt, however, from frost, for there is ice on the glass tank containing *Azolla filiculoides*, and roof and side lights are dense with frost crystals.

Cyclamen ibericum, with heart-shaped leaves, marbled with a faint zone of white, and small rosy-purple flowers, is very brisk and cheerful, and more forward than the variety of *C. coum* at its side, which differs from it but in its rounder unmottled leaves.

Saxifraga apiculata is just beginning to open its pale primrose buds, well in advance of the same species out of doors, and many other alpine plants are making haste to follow in their wake.

The mild weather has tempted the winter Honeysuckle,

LONICERA FRAGRANTISSIMA,

to open its first sweet white flowers. This species, though generally evergreen, has let fall a good many of its leaves this year during the hard frosts before Christmas, but is otherwise unhurt. Its usual place is against a wall, but here it grows as a sturdy bush, not more than 3 feet high, and is thickly set with buds. The nearly allied *L. Standishii*, which is often mistaken for this species, is not evergreen, having softer and slightly hairy leaves and buds, and will not open its flowers just yet. Another "Winter-sweet,"

CHIMONANTHUS FRAGRANS,

is very welcome at this season. In the variety *grandiflorus* the flowers are larger and of a clearer shade of citron-yellow than in the type, and though the plant is bare of leaf the blossoms make a brave show, and may be described against a well-toned brick wall from some little distance. It is just as well to bear in mind that this is one of the shrubs which bloom on the young wood, and any pruning or cutting out of useless branches that may be necessary should be done in early spring when the flowers are over, for if it be delayed there will be no flowers next year.

ADONIS AMURENSIS.

Amongst the herbaceous plants *Adonis amurensis* bids fair to be the first flower of the year. This is one of the more recent introductions, and though scarcely so fine as our old favourite *A. vernalis*, it is very good, and possesses the distinct advantage of being well to the fore. The Japanese have taken this plant in hand, and have raised varieties, double as well as single, of many colours—scarlet, purple, white, and yellow—and it has a book well illustrated all to itself in Japanese garden literature. This species comes from Manchuria, and was treated at first as a cool house plant at Kew, but it seems perfectly happy without any protection in the rock garden, where the sturdy growths are pushing up and showing their yellow petals encircled by the dark brown calyx. The leaves are finely cut as in most of the genus, and the plant is vigorous, but varies in growth from a few inches to 1½ feet in height.

STERNEBERGIA FISCHERIANA.

This fine bulb is wonderful in its persistence. Since the middle of December, when it began to

flower, the plantation of it has been getting brighter and more bright, until it is now at its best. There are two varieties of this species, the type, which blooms in March, and the above-mentioned, which differs from it very slightly except in its season of flowering. It waits till December, and fears no weather—a fact to be noted, as it makes it doubly valuable. It should receive a distinctive name.

SWEET PEAS.

THE Sweet Pea was a popular flower half a century ago, and to-day is one of the flowers that those who grow for cutting during summer cannot do without. Certainly from a florist's point of view there has been a steady improvement in the colours and the size of the flowers, more particularly the former, in recent years. Nearly half a century ago the Sweet Pea used to be grown by some in separate colours, as they are done now, but it was considered that they were more showy and effective in mixtures. Of course, as a showy lot, if the colours are well mixed they look more beautiful, but for those who grow mainly for cutting it is my opinion that it is best to grow them in the separate colours, as when cut the varieties can be gathered that are of the desired shade. Sometimes pale lavender is the colour wanted, sometimes white, and sometimes scarlet.

Those who wish to have good Sweet Peas will have to give seasonable attention first to the

PREPARATION OF THE GROUND.

Now is a good time to do that. We have just wheeled a lot of manure on to a piece of ground, and are trenching it two spades deep, putting a part of the manure in the hollow of the trench and part on the top of the first spading, so that this will lay a good groundwork for future success. Where a good demand for Sweet Peas exists this is the better way, growing them in a selected piece of ground all together, though doubtless they do well and are very effective in clumps in mixed borders. For example, I once grew a lot of clumps in a long mixed border. They were all of the white variety. At intervals, and just between the clumps of white Peas nearer the front of the border, were masses of *Gladiolus brencchleyensis*, which is a bright red, and the contrast of the two proved very effective in autumn.

VARIETIES.

It will soon be time to order seed of new varieties or a fresh supply of seed. Last year I grew about forty varieties, an interesting collection. I here give a list of varieties which, if properly grown, cannot fail to give satisfaction. Amongst blues are Countess of Cadogan, *Emily Eckford, and *Navy Blue; blush, *Duchess of Sutherland; creamy salmon, *Venus; bright red, *Salopian; lavender, *Lady Grisel Hamilton, *Lady Nina Balfour, and Maid of Honour; magenta, *George Gordon; maroon, Othello, *Black Knight, and Stanley; mauve, *Dorothy Tennant; orange-pink, *Miss Wilmott, *Chancellor, Triumph, and *Gorgeous; pink, Duchess of Westminster, Countess of Lathom, *Hon. F. Bouverie, Prima Donna, and *Lovely; red, *Coccinea and *Prince Edward of York; rose, *Lord Kenyon and Her Majesty; striped, *Mikado; white, *Sadie Burpee, *Blanche Burpee, and *Emily Henderson; primrose, the Hon. Mrs. E. Kenyon, *Lady Ormsby Gore, *Queen Victoria, and Mrs. Eckford. For twenty-four sorts out of the above I have marked thus * those that I would recommend.

SOWING SEED.

It is a matter of opinion whether the seed is best sown under glass, and the plants transplanted to the open ground when about an inch in height, or whether it be sown in the open ground. My opinion is that it is best to sow under glass and transplant. If sown in the open, excepting they are perfectly protected from birds, they are almost certain to be disturbed by these depredators; and, besides, they are not quite so early when sown in the open. The seed under glass has to be carefully managed also. It must not be over-watered when

germinating or the seedlings will go off wholesale. I get boxes and fill with strips of turf regularly in the box. Then I mark with a piece of wood a groove in which to sow the seed on the strips of turf. This is given a gentle watering, then the seed is sown, and a slight covering of sifted soil is given. The boxes are then carried to a vinery about to start, covered over with a few papers, and no more water is given until the young Peas are "rowed" in the boxes. By doing this little chance of failure will result. The next move is to take the boxes to a cold frame to harden off to get ready for planting out.

A few years ago I had a piece of ground, as I thought, thoroughly well prepared for Sweet Peas. But as the summer advanced I could see that in trenching the ground too much of the subsoil was brought to the surface, and the young Peas did not take kindly to it in places. So any beginner trying to grow Peas well might profit by my shortcoming. To obviate this at planting time I have a trench a few inches deep taken out, and immediately round the young plants a good sprinkling of old potting soil is put—pot refuse from the potting shed sifted through an inch riddle and used in this way. The rows should not be closer than 4½ feet. After planting, a few twigs as for a miniature row are put in, and a strip of net is put on to keep birds off.

As regards staking, no doubt the best method is the old one of suitable branches from trees that are cut down. After this operation, little more should be required to enable one to gather flowers in plenty. But if we have a summer this year as last we must watch carefully for red spider and if it makes its appearance the syringe must be used freely before the foliage becomes yellow from its effects. I feel sure this is a point often overlooked in the culture of Sweet Peas. Amateurs do not know what is the matter with their Peas when they go yellow, but if their attention is drawn to the matter, on inspection the myriads of these insects will be observed, which should be driven off forthwith by the syringe. If these points are attended to which I have tried to describe, along with waterings in dry weather, there is every probability that a long season of flowers will result—from June till cut down by frost.

ROBERT MACKELLAR.

Alney Hall Gardens, Cheadle.

The Middlesex County Council School of Horticulture.—We are asked to publish the following: The Technical Education Committee of the Middlesex County Council, having decided to establish a school of practical and scientific horticulture, has, by arrangement with the Edmonton District Council, acquired a large piece of land with six greenhouses at Pymmes Park, Edmonton, for the purpose of carrying out this idea. The main object in view is to give a thorough horticultural training to those who are anxious to take up gardening as a profession. Opportunity will also be afforded to school teachers to acquire a knowledge of horticulture by means of special Saturday morning lessons and demonstrations in the gardens. Only the best and most profitable kinds of fruits, flowers, and vegetables will be grown, and trials and experiments of particular crops or varieties will be carried out from time to time as occasion may require. Scientific training will go hand in hand with the practical, and lectures and demonstrations on the theory and practice of horticulture, the examination and classification of plants, the use of the microscope, &c., will be freely given. Students will also have the privilege of attending the lectures on chemistry and other sciences at the council's well-appointed laboratories at the Tottenham Polytechnic. The County Council offers three scholarships of £20 to £30 per annum, according to the age of candidates. The work in the gardens will be carried out under the direction of the council's instructor in horticulture, Mr. John Weathers, F.R.H.S., author of "A Practical Guide to Garden Plants." Prospectuses and further information relating to the School of Horticulture may be obtained from the organising secretary, The Guildhall, Westminster, S.W.

THE GARDEN

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[FEBRUARY 1, 1902.]

THE BOTHY.

IN large gardens where a number of lads and young men are employed it is usual to provide the lodging accommodation commonly known as a bothy. Many, perhaps most, owners of large places are fully aware of the great benefit that a well-arranged bothy is to the lads and young men, to whom it is a home for perhaps a couple of years of their life, at an age when good housing, away from temptations, and, in addition, some kindly leading and careful watching may make the whole difference in the bent of a life.

The gardener who has the immediate authority over these young lives can do a great deal, and the influence of a wise and kind man with a fatherly feeling for the men under him is of a value that cannot be too highly estimated. To enable him to exercise it to the best effect the conditions of the lodging place must also be of the best. Not only must it be wholesome, in the way of proper space and sanitation, but it should also be distinctly attractive in a homelike way. It should be properly warmed and lighted, and should have abundant water supply. There should be separate beds—in cubicles if possible—a bath, and a good sitting-room for meals and evenings. It costs but little to supply some standard books on horticultural and allied subjects, while well organised arrangements for buying articles of food, for cooking and cleaning, washing and mending clothes, will leave the lads time to do some improving work as well as enjoy wholesome amusements in their spare hours. Many an employer would give a teacher on two or more nights a week, or an occasional instructor in some special subject.

We should be glad to open our columns to the discussion of this most important subject, and also to hear of the systems that have been devised in some of the best gardens. We should like to hear of it from every point of view, from that of the owner, the gardener, and the young men who are its occupants.

THE HORTICULTURAL HALL.

VARIOUS rumours are afloat about the proposed Hall of Horticulture for the Royal Horticultural Society, and probably when the society holds its annual meeting on the 11th inst. the Fellows will hear from the council what progress has been made towards its inception. We recently printed without comment a paragraph from the *Globe* suggesting a

possible amalgamation between the society and the Royal Botanic, but we hope no wild scheme will be got up to combine two at present distinct institutions.

The Royal Horticultural Society has sailed bravely through the storms of many years and is now in the calm waters of prosperity, a prosperity which, used aright, will result in the course of years in a financially powerful condition. But it is surely no part of the society's policy to suffer partial strangulation by amalgamation with another of nondescript aim, which appears to attach as much importance to the getting up of dinners and other social meetings that have nothing to do with gardening as it does to legitimate horticulture. The beautiful gardens at Regent's Park are tempting; the grassy glades and cool leafy retreats suggest pleasurable environment for flower shows and gatherings, but we would rather see the Royal Horticultural Society hold its meetings in a barn than amalgamate with a body that has publicly sold its birthright.

The council must be thanked heartily for its efforts to meet the wishes of the Fellows, and we understand that a suitable site has been procured in Westminster for a permanent home. However, a hall must not be built with the funds of the Royal Horticultural Society, which is not in a position to make an extravagant expenditure, such as a site and building in Westminster would entail, to say nothing of the serious after-cost of rates and expenses of maintenance. If the hall is to be built by private subscription, by the generous donations of a few men whose names are worthily revered in the world of horticulture, then all is well, and the clearly right policy of the council is to assist as far as they consider proper the scheme brought forward by those who thus show their interest in its promotion. Probably it is illegal for the society to embark in building speculations at all, but no doubt we shall be enlightened on that point on Tuesday week.

We see most plainly that a Horticultural Hall is desirable, but think its erection would be most unwise if the society's exchequer is to be emptied for this purpose alone. A costly hall must be maintained at the society's expense and could only be used for the fortnightly meetings. It is common knowledge that at the big fruit show held each year at the Crystal Palace the entrance money pays but little of the expenses. The whole question really is: How much is the site and hall to cost, and who is going to provide the funds for erection and maintenance?

It seems to us that the practical side of the society's work much more urgently demands attention, we mean the garden for experiments and for the foundation of a school of horticulture. A plain hall in London and a big garden in the country would happily and fittingly celebrate the society's centenary, but the utility of the garden rather than that of the

hall forces itself upon us most strongly. The less showy but really more practical side of the society's work should have the careful attention of the more thoughtful among the Fellows. It is obvious that the hall should be a more popular idea with many of them, as it provides a pretty show of flowers in season, and gives them directly something for their money. But we urge them to think also of the society's immense educational power, and of the crying want for just such an establishment as it is now so thoroughly well able to conduct and control.

The benefit that would be the outcome of a large garden in the country, with suitable working buildings and plain lodgings for students, could hardly be over-estimated. There can be little doubt that it would in a few years repay the original outlay and become self supporting, while the London hall, unless independently endowed, would always be a wasteful drain on the society's resources.

The hall is undoubtedly desirable, but its existence should not be a hindrance to more useful work. If we can have both we shall indeed rejoice. Perhaps we can.

VERONICA.—III.

THERE are at least three species of Veronica with terminal spikes, between which it is evidently very difficult for botanists to draw a line. This is evident if we examine their synonyms in standard works of botany. They are *V. longifolia*, *V. spuria*, and *V. spicata*. We shall begin with the largest form, which I was told by a good authority in Kew Herbarium to consider the type of *V. longifolia*. In this damp soil, which draws up all plants, it grows 4 feet high or more. It flowers in July with a long, very loose, and blunt spike of dull blue flowers. The leaves which grow up the rather wiry stems in opposite pairs have rather long petioles, and, starting to grow out horizontally, become deflexed towards the ends. It is not an attractive plant, and the best portrait I have seen of it is in Gerard's "*Herbal*." He calls it *Veronica assurgens*—"the Tree Fluellen"—and tells us, though other writers dispute it, that Fluellen is the Welsh name of the Veronica, and that the Welsh attribute great virtues to the plant, because it "*sodereth and healeth all fresh and old wounds*." This type of the species is wild in Central Europe, but not in France. It comes in my garden quite true from self-sown seed, and though I have tried to expel it, it still survives there. We now speak of the opposite extreme of this section, the smallest type of *V. spicata*, a rare British plant, found only on the chalk downs of the eastern counties. It is a very slender and delicate-looking plant, rising not more than 3 inches or 4 inches from the ground, though the spike is always borne upright. Clusius figures it on page 347, calling it *V. recta minima*. It is not difficult to keep in a

dry limy rockery if care is taken not to let it be smothered. I never saw or heard of either a white or a pink flower in this type. On the other hand, there is another stouter, but hardly taller, form of *V. spicata*, found wild on the limestone downs of North Wales and the North West of England, which not unfrequently occurs with pink and with white flowers. Linnaeus called this *V. hybrida*, and it is still, I suppose out of respect for him, called by botanists *V. spicata* var. *hybrida*, though there is no hybrid character about it. It grows by thousands on the bare limestone downs south of Llandudno where not grazed with sheep, so as to make them quite gay with the flowers in August. The commonest colour is rich glossy purple, but it loses this gloss in cultivation in my garden, becoming a somewhat dull blue. I have picked out various shades of pink, some of them good; but that colour does not seem to live long in cultivation, or to come true from seed. The pure white variety is very good for rockeries, and, if planted in broken limestone or mortar rubbish, retains its upright dwarf habit, and flowers very freely, coming true from seed. I consider it the best dwarf *Veronica* for the alpine garden; but in a border of ordinary soil all these forms of *spicata* become coarse, and coarser in every fresh generation from seed.

Of intermediate forms between the two extremes described there are many in gardens. All old-fashioned gardeners probably remember three or four rather stout forms, about 18 inches or 2 feet high, generally sold in nurseries as *V. spicata*. There is one with blue flowers, another with white flowers, and a third, the stoutest in habit, with dark purple flowers and variegated leaves. A fourth is now cultivated, more straggling in habit, with longer flower spikes, which its weak stalks cannot hold up, and pink flowers. These are now referred to *V. longifolia*, but they are the *V. maritima* of Linnaeus, and the first three are enumerated by that name in Loddiges' "Catalogue of Hardy Perennials" already mentioned. Clusius probably intends his figures of *V. erectior*, Nos. 1 and 2, page 346, for this form, though Godron in his "Flore de France" claims these for *V. spuria*.

Besides the few kinds I have enumerated in these three mixed-up species, I have a good many other doubtful plants which come from self-sown seed, few of them worth keeping permanently, though, as I have said, they cannot be sorted.

Perhaps the best of hardy garden *Veronicas* is generally referred to *V. longifolia*, called by botanists var. *subsessilis*. It is too well known to want describing. It is said to be Japanese, but whether a wild or a garden variety I never heard. The colour of the flower, which is purple, is easily surpassed by some of the *V. Teucrium* kinds, and the sturdy habit and broad leaves with short stalks resemble an overgrown *V. spicata* var. *hybrida* more than a typical *V. longifolia*. Though nearly all the hardy *Veronicas* ripen seed freely, I never could find or hear of a seed on this, and it is to me rather a mysterious plant. *V. incana*, a native of Southern Russia, belongs to this section, and is well worth a place in gardens. The name describes the leaves, which are nearly white, and contrast well with the abundant spikes of amethyst blue, produced in August. The flower stalk does not rise more than a few inches, but if the plants become at all straggling they should be cut back in autumn to within an inch or two of the ground. I find it a very good plan to pull the plants into small pieces in early spring, planting near the edge as recommended for

V. spicata in very stony soil. A few years ago I observed near one of these plants a seedling which has all the appearance of a hybrid between *V. incana* and *V. spicata*. It exactly corresponds with a portrait in Sweet's "British Flower Garden" named *V. neglecta*. This name is now referred to *V. incana*; but I may add that seed from my plant reverts in part to *V. spicata*, making my belief in its hybrid origin more probable.

On looking through the *Veronica* names in "Index Kewensis" I came across *V. corymbosa*, Quid! I have long had a plant so named, the name denoting not a species, but a habit of *V. spicata*. The first I had of it belonged to the smallest blue-flowered type. The lower flowers of the spike are replaced by small secondary spikes, so that the head assumes the shape of a giant Mignonette. I cultivated carefully and propagated the plant, but I am not sure whether it still survives or has been smothered. Since possessing this plant I have noticed the same habit in more than one of the larger nondescript seedlings mentioned above. It is probably in a garden form, for I am sure I have examined many thousands of *V. spicata* var. *hybrida* on their native downs without ever coming across *V. corymbosa*.

Edge Hall, Malpas. C. WOLLEY DOD.

NOTES FROM SCOTLAND.

MESSRS. LAING AND MATHER, KELSO,

who purchased the seed business of Stuart and Mein a year ago, have done honour to the old firm by publishing "Stuart and Mein's Amateur Guide," in the same form it has appeared for so long. The firm possessed the confidence of a large constituency in the North of England and on the Scotch borders, and brought out some good things. Their Marigold for example long enjoyed a great reputation, and they had a very large business in Gladioli, which at one time they cultivated splendidly. In vegetables, the Lyon Leek and Mein's No. 1 Cabbage have become standard varieties in their respective sorts. I believe it is no secret that the wonderful new *Carnation*, Sir R. Walde Griffiths, originated in their nursery some five or six years ago. Messrs. Laing and Mather continue the prizes for Cabbages and Leeks, which for many years had been offered to customers of the firm.

DR. ANDREW CARNEGIE,

who lately engaged Mr. MacIver to control the gardens at Skibo Castle, will spare no expense to procure the best of everything for his garden. The annual meeting of the

ROYAL CALEDONIAN HORTICULTURAL SOCIETY

was held recently in Edinburgh, when the accounts for the past year showed a slight balance on the wrong side. Mr. Thomson, S.S.C., is the genial secretary, and works hard to benefit the society, which at present seems to be suffering from slight depression. Let us hope, however, it will speedily pass away. I hear over a dozen young gardeners are working hard at the garden design, which has to be sent in by April 1.

MR. D. DEWAR,

who has controlled the Botanic Gardens, Glasgow, during several years, has lately resigned. Mr. Whitton has had the superintendence of these added to his other work. It is said that Glasgow's head gardener receives by far the largest salary of any British gardener, but he has to work for it.

STREET FLOWERS.

I saw bunches of Lily of the Valley and other choice flowers offered for sale by lads in Princes Street, Edinburgh, in the middle of January. I have been assured by a wholesale florist that a number of lads make a very good thing of retailing flowers, particularly on Saturday night. Sweet-scented flowers such as Violets and Roses take best, and the latter are sometimes bought at 3s. per dozen, and retailed at cent. per cent. I see

MR. MOIR, ROSENAUGH, ROSS-SHIRE,

who staged at the late show of the Scottish Horticultural perhaps the finest examples of Apples and Pears ever produced in Scotland, is to prepare a paper for the society on "Pears." Mr. Moir is a successor worthy of John Reid, who Lord Rosebery brackets with Lord Bacon as a gardener worth cultivating. Reid, it will be remembered, while gardener to Sir G. Mackenzie, Rosehangh, published in 1683 "The Scots' Gardener." It is of gardening books quite as original as Parkinson's, and increases yearly in value. B.

BOOKS.

Formal Gardens in England and Scotland.*—

The first of three parts of this important book has been lately published, the second is to follow in March and the third in June. Mr. Triggs has undertaken to do for the gardens of the Tudor and Jacobean and later days what Mr. Gutch and others have done for the buildings of those times. The admirable photographs of Mr. C. Latham have been skilfully reproduced, showing some of the finest gardens of England and Scotland, sometimes in detail of important parts and sometimes in direct relation to the house itself, while a still larger number of sheets of illustration show whole and detailed plans, giving abundant evidence of the author's refined taste, as shown in the selecting, and of his industry in rendering what is of extreme interest both to the student of garden design and the great number of those who are now seeking inspiration from the good work of previous days. To all these, as well as to the general public, the work may be heartily commended. In addition to the pictures of existing gardens the third part will contain reproductions from engravings and documents, often contemporary with the subject depicted, showing the original design of some of the great gardens, many of which have suffered changes through periods of alteration or neglect. The illustrations consist of entire plans and photographic and prospective views of existing gardens, together with sketches, measured drawings and photographs of gate entrances, terraces, balustrades, steps, garden rooms and summerhouses, bridges, pigeon-houses, sundials, figures and vases in lead and stone, fountains and ponds, topiary work, &c. An introductory historical note is issued with Part I., and some historical and descriptive accounts are promised with Part III. The price of each of these parts is 21s.

The Story of Architecture.—Truly these are days when knowledge is made not only easy but full of pleasure in the acquiring. Clear, pithy, and humanly interesting is this highly commendable shillingsworth, tracing the course of architecture from the Pyramids to St. Paul's. One reads it like a charming story, not merely as a dry work of reference. No better book could be among those used in the education of every boy and girl of the better classes, or indeed of any; it should be on the shelves of every private schoolroom; while the young scholars' elders will keenly appreciate it on their own account.

Some French Horticultural Hand-books.

—Among the many useful handy works on technical subjects published in France, those dealing with matters horticultural are by no means the least instructive. Some that have reached us lately are of special merit. They are published in Paris by the Librairie et Imprimerie Horticoles, 1902.—"Agenda Horticole," by L. Henry.—A handy annual, containing a description, with instructions for using, all kinds of horticultural material and appliances, also describing processes for their preservation—such as the treatment with sulphate of copper of perishable material for shading, staking, &c.; ways of constructing trellising of wire and wood, and the making and maintaining of lawns; tables of the best vege-

* "Formal Gardens in England and Scotland," by H. Inigo Triggs. Batsford, London; 1902. Part I., price 21s.

† "The Story of Architecture," by P. Leslie Waterhouse, M.A. George Newnes, Limited, London; 1902. Price 1s.

tables, with dates of sowing; tables of spacing for tree planting, and various pieces of useful information, including winter pruning of fruit trees and the care of decaying trees and the natures of artificial manures. The second part deals with the diseases of plants and insect pests and the means of cure or prevention. The third part contains a quantity of useful matter, beginning with a brief account of how to render first aid in case of accident, sudden illness and injury by vegetable poison or the bites or stings of venomous creatures. —“L'Art de Bonturer,” by Adolphe Van den Heede.—This is a capital handbook on making cuttings, layering, and allied methods of propagation, with a good number of illustrations. A useful garden book for anyone who knows French. —“Culture Forcée des Oignons à Fleurs,” by Jules Rudolph.—Also a thoroughly practical treatise, with some illustrations, on the bulbous plants, including those with tubers and rhizomes that are used for forcing for house or conservatory decoration.

HARDY FRUITS IN SEASON.

PEAR NOUVELLE FULVIE.

THIS Pear has been favourably noticed in THE GARDEN on many occasions during the past year by several correspondents, and in virtue of its great excellence as a late winter dessert variety, no apology is needed for giving an illustration of the fruit and again referring to its merits. It is undoubtedly one of the best flavoured winter varieties we have. The fruit is of a pyriform shape, greenish yellow in colour, of moderate size, and, as regards quality and flavour for this late season, is in my opinion the best of all Pears. It is in season from January to March. It succeeds perfectly when grown as a bush, pyramid, espalier, or even in the orchard. Fruit grown in the latter I have had in good condition for dessert as late as the end of March. This hardiness, freedom of growth, good cropping qualities, and delicious flavour invest Nouvelle Fulvie with an importance and value possessed by few other varieties. OWEN THOMAS.



PEAR NOUVELLE FULVIE.

of the large single purples are joined at the base of the calyx, while the stalk is scarcely thicker than usual.

Lady Acland sends from near Taunton some beautifully coloured blooms of

GENTIANA ACAULIS AND ALSO FLOWERS OF THE CHINESE SACRED NARCISSUS

with these words:—"Some years ago I grew them (the Narcissus) among stones in bowls, but they were not very satisfactory; they were then planted in a border looking west, and they always come into bloom early in the spring, this year earlier than usual. We have also in bloom *Gentiana acaulis*, *Camellias*, and *Primroses*. In another garden we have *Iris stylosa* both mauve and white, also *Iris reticulata*, *Histrioides*, *stenophylla*, and *alata*. They are close to the greenhouse but out of doors."

NOTES OF THE WEEK.

Forthcoming events.—Annual meeting of the National Chrysanthemum Society, February 3; presentation and dinner to Mr. Richard Dean at the Royal Aquarium, 7 p.m., February 4; meeting of the National Amateur Gardeners' Association, February 4.

National Sweet Pea Society.—The exhibition of this society will be held at the Royal Aquarium on July 15 and 16.

Memorial to Sir Edwin Saunders.—The executive committee of the National Chrysanthemum Society have framed a scheme for commemorating the services to the society rendered by the late president, Sir Edwin Saunders. It is proposed that a subscription list be opened for the purpose of offering for competition annually at the November exhibition the large gold medal of the society, such medal to be known as the "Sir Edwin Saunders Memorial Gold Medal," to be awarded to some competitive exhibit of the highest order of merit, but not to the same subject two years in succession; that the first "Sir Edwin Saunders Memorial Gold Medal" be offered for competition on November 4 next in the class for a floral display of Chrysanthemums, arranged on the fountains, as an additional award to the first prize in that class; that an account be opened at the London and County Bank, Ealing, to be known as

the "Sir Edwin Saunders Memorial Fund." In order to enable as many as possible of the members to join in establishing such a memorial the smallest sums will be gratefully received by the secretary, Mr. Richard Dean, V.M.H., Ealing, London, W. The subscriptions promised include Messrs. T. Bevan, J. T. Simpson, H. J. Jones, James Tyler, William Howe, A. Newell, R. Dean, G. R. Dean, 10s. 6d. each; and Mr. F. Millsom, 5s.

Presentation to Mr. John Wright.

—The annual dinner of the Worshipful Company of Fruiterers was held at the Albion, Aldersgate Street, on Friday, the 24th ult., Mr. Lea Smith, Master, in the chair, the Lord Mayor and Sheriffs of London being present. Advantage was taken of the occasion to present to Mr. John Wright the gold medal of the company upon the completion of the sixth revised and enlarged edition of "Profitable Fruit Growing." The recipient, who was for a quarter of a century on the staff of the *Journal of Horticulture*, the connection being severed at the close of 1900, has now three gold medals for distinguished literary services to horticulture. The first was presented by Dr. Hogg as an addition to the monetary award made to Mr. Wright when "Profitable Fruit Growing" was written; the second was the V.M.H. of the Royal Horticultural Society; and the third the just-presented magnificent medal of the Fruiterers' Company.

National Chrysanthemum Society.

—The annual general meeting of the members of the above society will take place at Carr's Restaurant, 265, Strand, W.C., on Monday evening next, at seven o'clock, Sir Albert K. Rollit, M.P., president, in the chair. The business will be to receive the committee's annual report and balance sheet; to elect a president, vice-presidents, officers, and one-third of the committee, for the year ensuing; and to transact such business as pertains to the annual general meeting. The following are the proposed additions to rules: Rule III. Additions by Mr. R. Dean—after "the management of the society shall be vested in the officers of the society—viz., a president, vice-presidents, treasurer, chairman, and vice-chairman of the executive committee," add "general secretary and"; also line 6 after "the president, treasurer, chairman, vice-chairman," add "general secretary." Addition proposed by Mr. J. McKerchar and Mr. J. T. Simpson: Rule XIV. Schedule Revision Committee—A sub-committee of the executive committee, consisting of nine

EDITORS' TABLE.

FLOWERS FROM SOUTH DEVON.

We receive from Mrs. Edward Bayldon, from South Devon, some charming bunches of large single and double Violets from the open air. Mrs. Bayldon writes that she has "in bloom in quantity Cyclamen Coum, Snowdrops, Violets, Winter Aconites, Double Primroses, Winter Jasmine, Laurustinus, Rhododendron arboreum, and Lent Hellebores; and, in more or less quantity, Blue Primroses, bunch and wild Primroses, Aubrietia, Arabis, Periwinkles, Colchicum Parkmanii, Crocus Imperati, *C. zonatus*, and others; Christmas Roses, Megaseas, Polyanthus Narcissus, Roses, Wallflowers, Berberis Darwinii, *B. japonica*, *Lonicera fragrantissima*, Hamamelis, and White Stocks; also Anemones, Kniphofia, Chrysanthemums, Abutilon, Pentstemons, and Schizostylis coccinea. *Iris stylosa* is late, as the plants have only been a year in their present quarters. *Chianthus puniceus* is also late; so are the tender Acacias. The November frosts have delayed such things. Camellias are showing colour at the tips, and several varieties of Peaches and Almonds are colouring. Magnolias are very forward, and the Laurels are in flower bud. One of the Japanese tree Pæonies is also showing the flower bud. The Kniphofias seem to be everlasting bloomers. There are a quantity of flower-heads pushing up."

GALANTHUS ELWESII.

Mrs. Edward Bayldon sends from Dawlish some grand blooms of *Galanthus Elwesii* and an unusual Violet freak, in which two perfect flowers of one

members, with the officers ex-officio, shall be appointed at the first meeting of the executive committee held after the annual general meeting, to revise the schedule of prizes and nominate judges, and report the same to the executive committee for approval.—To add the following clause: The officers of the society and the elected members of the committee are disqualified for nomination or election as judges.

Custard Apples.—Can any reader of THE GARDEN inform me whether these have been made to fruit in this country, and what is the proper treatment for them? I have three or four strong plants raised from seed now three years old, and kept in a greenhouse with Peaches for forcing. Will these bear fruit, or should they be grafted, and, if so, on what stock? (G. E. P.)

Chrysanthemum Blush Canning.—I was interested in the account of the Chrysanthemum under the above name that recently obtained a certificate, because among seedlings flowered last year we had one that received the same name. I was sorry the best of the flowers were over or would have sent some to Messrs. Owen for comparison. Our flower is much like the type, except that the individual petals are much broader and of greater substance, the colour closely resembling a Countess of Paris Carnation, growing to nearly a pure white towards the tip of the petal. I am working up a good batch of it for the winter of 1902. Besides this, the only seedling of 1901 worth keeping is a very large single, that, so far as colour is concerned, may best be described as a dark Soleil d'Or. It is a well-shaped flower, with large, solid petals, and, as it is late, should prove valuable for vase work.—E. BURRELL.

"Little Dorrit's" playground.—Lord Monkswell, chairman of the Parks Committee of the London County Council, presided on Saturday at the opening in Southwark of "Little Dorrit's" playground. The open space, which is slightly over a quarter of an acre in extent, lies at the back of houses on the west side of Borough High Street, nearly opposite St. George's Church. It is tar-paved, and is intended for use as a children's playground. The playground is a portion of the land which was cleared in connection with the Falcon Court Housing Scheme of 1895, and before the scheme came into operation the district was one of the most wretched areas of South London. Within a short distance of the playground there are blocks of dwellings with a working-class population of about 4,500, in addition to many small houses let in tenements. The County Council paid £5,600 for the land, and levelled the area and tar-paved and drained it at a cost of about £450. The name of "Little Dorrit's" playground has been adopted owing to the proximity of the open space to the site of the old Marshalsea Prison, which, with its inmates, furnished Dickens with the theme for his story of "Little Dorrit."

Presentation to Mr. Gregory.—An interesting presentation was recently made to Mr. Gregory, hon. secretary of the Croydon Horticultural Mutual Improvement Society, at their annual dinner. The chairman said it had been recognised amongst the members that the society owed a deep debt of gratitude to Mr. Gregory for his admirable services on behalf of the society, also that a great part of its success was due to his untiring efforts, and the membership joined together to present him with a framed list of subscribers and a purse containing £14 5s. They hoped his efforts would long be devoted to the good of the society.

Fighting hailstorms with cannon.—The *Indian Gardening and Planting* has an interesting article on the wonderful results of fighting off hailstorms with cannon. "Hail is one of the worst enemies of standing crops of all kinds, and in India tea is often exposed to its ravages. A hailstorm will strip the flush from the bushes and in half an hour effect damage, which, besides the immediate loss in tea, has a lasting effect upon the wood of the plants and reduces output for several months after. Tea planters, therefore, will be specially interested in the results obtained by vine growers in Europe in fighting off hailstorms

with cannon. The guns employed have very little in common with warlike artillery, being formed of nothing more than a funnel-shaped barrel of sheet iron roughly made, and looking like an enormous blunderbuss mounted vertically on a tripod with its muzzle pointing to the sky. . . . This is the contrivance with which European vine growers now obviate the disastrous hailstorms which used to devastate their vineyards. Imagine a Grape grower in his vineyard when the plants are heavy with ripening fruit. Around him is his labour for months and all his profits for the year. But just as he is thinking of these things and is very thankful he sees clouds stealing up on the horizon. Others come, and they grow together in lowering banks and darken the earth. The calm after the sultry day is deathly, and the planter knows the signs as he looks up. Hail will fall, and in the next few minutes a year of toil and of life will be taken from him. If he could only bridge over those few minutes of destruction! By means of these cannon he can now do so. In the South of Europe batteries are systematically installed, and whenever the skies are threatening a bombardment of the clouds invariably succeeds in dispersing them and averting the dreaded catastrophe. . . . In general, the effects of shooting are: Thunder stops, lightning retreats to a distance, wind dies down, melting sleet or rain falls, clouds disperse, and sky clears."

Beckenham Horticultural Society.—"Some Physiological Considerations in Plant Culture" was the title of a lecture recently given before the members by Mr. H. O. Etherington, manager of the West Wickham Nursery. Mr. J. R. Box, of Croydon, occupied the chair.

Sales of books.—Messrs. Sotheby, Wilkinson, and Hodge's sale of books and MSS. from various sources on Saturday included the following: R. Clutterbuck, "History and Antiquities of the County of Hertford," 1815, £9 5s. (Good); Sir W. Dugdale, "Antiquities of Warwickshire," 1730, second edition, revised by W. Thomas, £15 (Edwards); Dr. S. Johnson, "The Rambler," 1753, first edition, £5 5s. (Quaritch); Edwards's "Botanical Register," edited by Professor Lindley, 1838-47, with 750 coloured plates, £10 10s. (Quaritch); F. Blomefield, "Essay towards a Topographical History of the County of Norfolk," 1805-10, in eleven volumes, £10 2s. (Edwards); and "Sussex Archaeological Collections," 1853-1900, forty-three volumes, with index, £13 10s. (Edwards).

—At Mr. Stevens's rooms, King Street, Covent Garden, the library of the late Mr. G. R. Ryder was sold on Tuesday last. Some of the more important prices realised were as follows: "Paxton's Magazine of Botany," complete set, sixteen volumes, 1834-49, £7 10s.; "Flora Australiensis," by Bentham and Mueller, £4 17s. 6d.; "Amaryllidaceae," by W. Herbert, £3 3s.; "British Entomology," by John Curtis, £19; "Curtis's Botanical Magazine," complete set from the commencement in 1787 to 1900, £130; S. Edwards's "Botanical Register," £16; "Icones Plantarum" (W. J. Hooker), £43 10s.; "Loddige's Botanical Cabinet," £39; "Maund's Botanic Garden," £3 3s.; "Sowerby's English Botany," £15; John Parkinson's "Paradisi in Sole, Paradisi Terrestri," £20; "A Nieuwe Herball" (Doedoens), £4; "The Herball" (Gerarde), £4 15s.

Hampstead Heath Protection Society.—The annual report of the committee for 1901 is interesting reading: "The committee regret the loss of an honorary member, Sir Walter Besant, one of the founders of the society, who was a devoted lover of the Heath, and gave valuable help to the movement for securing Golder's Hill for the public. The fourth annual general meeting was held in the Drill Hall on March 19, 1901 (Lord Mansfield presiding), at which resolutions were passed in condemnation of any tunnelling under the Heath for the purposes of the proposed Tube Railway Extension, and in opposition to the proposal to make a further horse ride on the Heath. The committee are glad to report that the London County Council have declined to make this ride. The society have been very active throughout the year in resisting

the attempts of the promoters of the Charing Cross, Euston, and Hampstead Railway Extension No. 1 Bill, to obtain Parliamentary powers to tunnel under the Heath. They have co-operated with the committee of private residents formed to oppose this railway scheme, and deputations from both bodies were received by the Hampstead Borough Council and by the London County Council, and a joint petition was presented to Parliament in opposition to the Bill. A letter in explanation of the views of the society was largely circulated in the London Press. A proposal for another railway under the Heath—the Edgware and Hampstead Railway—has intensified the objections felt by the committee, and further steps are being taken by the society, in conjunction with the Residents' Tube Opposition Committee, to oppose both Bills. A resolution having been passed in the Hampstead Borough Council that the path on the Spaniards' Road should be tar-paved, the committee took steps at once to protest. A petition was sent in and the resolution was rescinded. This path has since been re-made with gravel, and the result is excellent. . . . In accordance with the recommendation made by the committee last year, the London County Council have planted and temporarily enclosed the north bank of the Leg of Mutton Pond. The plants are already becoming established, and the natural aspect is to a great extent restored. It is hoped that the south bank of this pond, and the banks of other ponds, will be treated in the same way. A sub-committee was appointed to report on a proposal for making a shelter for birds. Their report recommending the planting and temporary enclosure of two small plots in a secluded situation, was adopted by the committee and forwarded to the London County Council with a plan. The committee regret that the much-disliked trees planted on the east side of the Spaniards' Road have not yet been removed, but they feel confident that before these trees have grown much larger the pressure of public opinion, already warmly expressed, will bring about their removal. The committee desire to record their appreciation of the care bestowed on the Heath by the London County Council, and to state their opinion that its condition shows marked improvement. They think, however, that there is urgent need of further supervision throughout the night and in the early morning. The chairman of the committee is Mr. Ernest E. Lake, and the joint secretaries, Miss Emily Field and Mr. H. F. Pooley.

Orobanche speciosa.—With reference to the interesting note of your correspondent "G. S. S." (THE GARDEN, January 18, page 34), I can only say that, in my twilight knowledge of the ways of *Orobanche speciosa*, I would not be dogmatic. I merely tell what I have, so far, been able to notice about this curious parasitic plant. For some years my main crop of it has been from seed sown in pots with a few common broad Beans when the Bean plants were in their second or third leaf. In the balls of soil I have often seen the white filamentary roots of the young *Orobanches*, very distinct from Bean fibres, but I have never found the "resting tuber" produced until the *Orobanche* flower stems had finished their work, and so I am without evidence to support your correspondent's suggestion that the "resting tuber" may be a phase of young seedling life. This tuber is easily detachable from the bulb-like scaly base of the old spent flower stem, and has always been destroyed by any frost that could reach it. It was only in 1901 that I found living tubers of this *Orobanche*, which had been secure from a lower temperature than 45° to 42°. I thought *Linaria cymbalaria* a curious "host" for a parasitic plant that affects leguminosae, but *de gustibus non disputandum*. Also I have noticed that a resting tuber was throwing out lateral fibres from its claws; and perhaps hastily or prematurely wrote of it as thus "laying parasitic hold." It cannot support itself through life, and I had concluded it was seeking again the hospitality of the *Linaria*. To my delight *Orobanche speciosa* has escaped from cultivation here, and appeared last summer upon wild vetches on the banks of the lively trout stream that flows close past our garden.—FRANCIS D. HORNER, V.M.H.

The Japanese and gardening.—In a most interesting lecture given by Chozo Koike, M.J.S., Attache, Imperial Japanese Legation, before the Japan Society, reprinted in the Journal, reference is made to Japanese gardening. "The Japanese take a great interest in gardening. Japanese residences have their own gardens around the houses. Unlike English gardens, those in Japan are generally an imitation of Nature in miniature. While it lacks the green lawns covering a good-sized space of ground, which forms the principal part of an English garden, a Japanese garden has mountains, rivers, lakes, and waterfalls just as they are found in Nature, differing from the real ones only by their being on a much smaller scale. Gardens are often laid out after the model of some place famous for its scenery. It is also often the case that people spend more money on their gardens than on their residences."

Ageratums.—The mention of these bedding plants in "Riviera Notes," by your correspondent E. H. Woodall, reminds me of a fine tall growing variety I saw used in the bedding arrangements on the sea front at Eastbourne some three seasons ago. If I remember rightly I was informed that the variety was Purley Gem. The plants were from 18 inches to 20 inches high, bushy, and full of flower, the colour being the nearest approach to a true blue I have yet seen in an Ageratum. Some little time after I was able to secure a stock of it, but which I have unfortunately since lost. As I saw it growing and flowering, and afterwards grew it myself, I looked upon it as being quite the best Ageratum that had ever come under my notice. With regard to the dwarf kinds alluded to by your correspondent I consider them to be hardly worth growing.—A. W.

Treatment of Poinsettia bracts.—I am in a position to endorse all that Mr. T. W. Trollope relates with regard to the plunging of the ends of the cut stems of Poinsettia bracts in boiling water to keep them fresh and prevent their drooping when cut. The loss of the milky juice or sap, I think, the cause of their flagging so quickly, and the action of the boiling water is to seal up the pores of the wood. Plunging the ends of the stems in cold water, or such as is used for watering the plants in the house in which they have been grown, also answers the same purpose, but this must be done at least twelve hours in advance of the time the bracts are required for use. The use of boiling water has this advantage—the bracts can be used directly after, as bleeding ceases quickly, and when the Poinsettias are called for at short notice this is a great consideration.—A. W.

Eranthem pulchellum.—It is but rarely one meets with this old winter-flowering stove plant, which is now at its best. Its beautiful dark blue flowers are very attractive in the conservatory during the dull winter months, when flowers of this colour are so scarce. It is easily raised from cuttings struck early in the year; these should be stopped when about 6 inches high to produce a bushy habit. The old plants may be cut back and repotted; they then develop into large and more showy specimens. It is very easily accommodated, and its colour alone should ensure its extended cultivation.—E. HARRISS.

Effects of fog on late Broccoli.—The heavy fogs we had in this district early in November, closely followed by frosts of 12°, 14°, and 16°, have proved quite as disastrous to the quarters of late winter and spring Broccoli as exceptionally severe weather. Just about the time of the November Aquarium show we had seventy-two hours of thick continuous fog, never once lifting. It suddenly cleared and the frost followed, when vegetation was thoroughly saturated, with the result above noted. I hope to note later varieties that have come through the ordeal best, as there is no doubt some are much harder than others.—E. B., *Esher*.

Richard Dean testimonial.—At the meeting of subscribers held on the 14th ult., at the Royal Aquarium, Westminster, it was resolved to entertain Mr. Dean to dinner at the Royal Aquarium on the evening of Tuesday, the 4th inst., at seven p.m., and to present the testimonial there. This is to take the form of an address on

vellum and a cheque for, it is expected, £300. The committee would like as many subscribers as possible to be present, and anyone wishing to attend is asked to write to the joint secretary, Mr. H. J. Jones, Ryecroft, Lewisham. London. The dinner tickets are 5s. each.

Wood preservatives.—Specimens of wood impregnated with a 3 per cent. solution of blue vitriol were exhibited and reported as lasting for ten years, recommended for Bean sticks and Hop poles, but obviously applicable with advantage to flower sticks generally, and also perhaps to sash bars, although it is stated that wood so treated does not take oil paints well. It is, moreover, difficult to work, hence in this direction further experiments are requisite.—*Gartenflora*.

Begonia Turnford Hall.—An independent sport remarkably like this was exhibited by the raiser, Herr H. Kohlmannslehner-Britz, who reported that the white variety of the same was very variable, flowers sometimes small, sometimes large, the large flowers being scented like Apple blossom. The same raiser referred to his light rose sport of *Cloire de Lorraine Begonia* as a great improvement on the type. Warm culture reported as detrimental to the strain both as regards beauty and permanence of bloom.—*Gartenflora*.

Ipomæa rubro-cœrulea.—This is one of the most useful of our stove climbers, not only from an ornamental point of view as a climber, but also for cutting for table decoration, for which it is admirably adapted. By sowing seeds about July or August it will come into flower early in November, lasting till the end of January, a season when its flowers are greatly appreciated. The seeds should be sown singly in 3-inch pots, and subsequently transferred to 8-inch or 10-inch pots at suitable intervals. The plants may be trained up wires or strings, and the growths must be kept constantly regulated or they will soon grow into a dense mass. Constantly syringe the plants to ward off the attacks of red spider, which if allowed to get a footing will quickly strip it of its foliage.—E. HARRISS.

French Bean Syon House.—This Bean has stood the test of time, and is still a favourite with many. For growing on a warm border to succeed the first early varieties few sorts equal it. It is a good grower, and the handsome pale green pods are produced in great profusion; added to this it is of excellent quality. Syon House Bean was the sheet anchor of the older gardeners, and what grand crops used to be secured both from plants in pots and from the open garden. There are other varieties better adapted for very early forcing, but for pot culture from January to May Syon House still holds its own.—J. CRAWFORD.

Jasminum nudiflorum.—At this season there are practically no hardy climbing plants in flower except the above, and the recent mild weather has brought it out in its full beauty, and it is now a perfect blaze of yellow star-like blooms. Although, strictly speaking, it is not a climbing plant, yet it fulfils all the purposes of one, but on no account should all its growths be fastened to the wall or trellis on which it is grown, the main stems only being nailed or tied up, and the younger shoots allowed to hang in a semi-pendent fashion away from the support. When the space allotted to it has been filled, this young wood should be cut back to about two buds from the base after the flowering period is over and before growth commences. By this means the plant is kept in the best flowering condition with very little trouble. This Jasmine is also a capital plant for filling a sunny recess at the side of a house, some of the growths being nailed up the walls and the remainder allowed to develop at will. In the course of two or three years it will fill the corner completely with a mass of long, arching shoots which will be covered with flowers at the duldest time of the year. Many of these growths will form roots where they touch the ground, and the extension of the plant need only be restricted by considerations of space. It is one of the most accommodating of plants in the matter of soil to grow in. I have seen it in almost pure yellow gravel, in stiff clayey loam, and in dry sandy soil, and it seems to do equally well in all. It, how-

ever, requires an ample supply of water in the summer, and it is astonishing to see how it repays a few good soakings during dry weather. The best plant of it I have ever seen is close to a water-butt that is regularly filled and emptied during the summer months, the waste water from which runs around the roots of the plant. It is practically a surface-rooting subject, and in addition to plenty of water in dry weather, should not be disturbed by any digging near it at any season of the year. *J. n. var. foliis aureis* has leaves and wood that are strongly variegated with bright yellow, which renders it conspicuous in the summer, and it is also quite as free-flowering as the type, though hardly so vigorous.—J. C., *Bagshot, Surrey*.

Alberta magna.—In the Mexican house at Kew a fine specimen of this rare Rubiaceous shrub is at present flowering finely. It is a native of Natal, and seeds were first received at Kew in 1890, Mr. W. Bull, of Chelsea, describing it the following year in his catalogue. It is ornamental in character, being of good habit and well clothed with large, deep green, Laurel-like leaves, and bearing large, flattened, terminal panicles of red tubular flowers 1½ inches long. Although discovered twelve years ago it is still very rare and little known. At Kew it has been tried both as a pot and border plant, and it has succeeded best under the latter treatment. It is planted in sandy peat and loam in a well-drained border in a position exposed only to the afternoon sun. Throughout the summer it receives copious supplies of water, both at the roots and overhead, being kept rather dry in winter. These conditions appear to suit it admirably, for in four years it has grown from a tiny plant to a specimen 9 feet high and 5 feet in diameter.—W. DALLIMORE.

Begonia dichotoma.—No idea can be had of the full beauty of this Venezuelan Begonia from plants grown in pots; it is only when planted out in a border of good soil that its true character is developed. Under the most advantageous conditions it cannot be said to be everybody's plant, there being other shrubby species far ahead of it as flowering plants; it is, however, well worth including in collections of indoor plants. In the Mexican house at Kew a plant three years old is now flowering well. It is 12 feet high, and consists of a few stout stems clothed with handsome leaves. The stoutest stems are 6 inches in circumference at a foot from the ground, and bear leaves from 12 inches to 15 inches across. A peculiarity about the leaf of this species is the curious rose-coloured fleshy end of the leaf stalk at the point where it joins the blade. The flowers are white and borne in large heads 15 inches across. Unlike most shrubby Begonias this should never have the shoots stopped, the beauty of the plant being in the tall, thick, Bamboo-like shoots, clothed with large handsome leaves. The advantage of planting out for indoor plants is well shown in the case of shrubby Begonias; plants grow more quickly, flower more continuously, and are not so affected by bad weather in winter as are those in pots.—W. D.

Six finest new Sweet Peas.—The season has arrived when most growers of Sweet Peas will begin to order seed of the kinds they wish to grow. With such a multitude of sorts to select from, and at a price within the reach of everyone, it is somewhat difficult to make a small selection. Every year there are some new comers, and those who have not the opportunity of seeing them in flower must be content with either catalogue descriptions or information given through the Press. During the last few years I have grown a great many sorts. Last year I had all the new ones, and I consider the year was remarkable for the number of really good new varieties. I doubt if this year will bring to light nearly as many sterling kinds. It can hardly be expected. Last year I obtained a good many packets of each of Eckford's newer kinds, growing them on highly cultivated land, chiefly in large clumps. The seed was sown in turf or 4-inch pots early in February, and the seedlings grown strongly from the first, being planted out in due course. When in bloom we manured them well, and it was astonishing how vigorously they grew, from 12 feet to 14 feet high,

and blooming from Midsummer Day until destroyed by frost. The flowers were magnificent, many of them with stems from 15 inches to 18 inches long. Out of about twenty of the newest kinds I consider the following the best:—*Coccinea*: I like this better than any highly-coloured sort, and had I to only grow one it would be this; the Hon. Mrs. E. Kenyon, creamy white; Miss Willmott, orange pink; Sadie Burpee, white; George Gordon; and last, but not least, Lady Grisel Hamilton, blue. The last-named produces very poor-looking seed, which, however, should not deter anyone from growing it. It is much better to sow these choice sorts in pots or boxes and plant them out.—J. CROOK.

Pea Carter's Daisy.—Any variety that is found in the seed catalogues of our leading seed houses may be trusted, and few vegetables have found more favour than Daisy Pea. My only complaint is that it is not plentiful enough, and rather costly if large quantities are grown. On the other hand, its splendid qualities make it a general favourite in all gardens, and as it gets more widely distributed it will be the standard variety for early supplies. I know that Messrs. Carter recommend it as a second early Pea, and doubtless in wet or heavy soils that is its season; but I have for years grown it for first crop by sowing under glass and planting out. It is also most valuable for frame culture or pots, as grown thus it pods grandly, and the flavour of this variety is equal to that of the best Marrow Pea in cultivation. On two occasions the fruit and vegetable committee of the Royal Horticultural Society at Chiswick have given it special notice, and for gardens where early Peas are wanted in quantities I do not know any variety superior to Daisy. Many years ago the older Stratagem, one of the parents of Daisy, was a great advance on the Peas then in commerce, and the same progress is maintained, as the newer Daisy is undoubtedly one of the finest dwarf early Marrow varieties in cultivation.—G. WYTHES.

THE IMPROVEMENT OF HARDY FLOWERS.

(Continued from page 50.)

THE Shasta Daisy, which has been hurled at us from the other side of the Atlantic, is described as being a marvellous production, but whether the plates are overdrawn or not, I cannot see that it will bear any comparison with what we have already got. I like the name Shasta Daisy and shall certainly use it.

COREOPSIS LANCEOLATA I think would pay well for a little attention, seeing we have some perennial species with rose coloured flowers, which we could fall back upon, providing the annual ones could not be induced to assist us in obtaining different shades from those already in cultivation. A red or rose coloured variety of *Coreopsis lanceolata* would find many admirers; a great deal might be done in selection, as I do not consider the present one anything like so good as the one I knew twenty years ago.

ECHINACEA PURPUREA has degenerated considerably during the last twenty years, and many of the strains now offered are not worth growing, whilst the good ones are among the best of our autumn perennials. The colour is being improved upon each year, and reds and purples will soon take the place of the poor varieties so often seen.

THE *ERIGERON* contains some good material for further developments, and in *E. speciosus* we have a very useful plant for all purposes and a great favourite, as it lasts so long in bloom. Among the perennial species we have white, orange, and flesh, and among the annual varieties yellows. Transfer either of these shades to the *speciosus*, and the result would be very pleasing. I find the "Composite" as a

rule, especially after the first break, very easy to cross.

EREMURUS.—White, lemon, and apricot varieties of robustus are in existence, and many other shades of colour will, no doubt, follow, but a man wants to start very young if he wishes to see the result of his labour in hybridising this family.

The species of *GERANIUMS* are, as a rule, somewhat weedy, but there are some among them remarkably showy, and could very easily be improved upon. The white variety of *G. sanguineum* is one of the very few varieties we have in this family.

The *GEUMS* are somewhat important as they last a long time in bloom, are easily grown and very variable. There are now several good varieties of *Heldreichi*, *montanum*, and *coccineum plenum*, but these can be improved upon very considerably.

GYTOSOPHILA PANICULATA.—The double variety which was shown before the Royal Horticultural Society during the past season I think will become a very good plant, providing it can be propagated, but I have never been very successful in raising it by cuttings, and I am somewhat afraid of the double.

In the *HELENIUMS* we have two or three good varieties, the best of all without question is *H. pumilum magnificum*, and this, I consider, is one of the best twelve hardy perennials in cultivation. It is in flower well for at least four months, and during the drought of the past season was a mass of bloom. *H. striatum* is a plant that will well repay a little attention, and I can see no reason why a crimson could not be obtained with care by selection. I have raised many, all striped more or less, but no self-coloured flowers.

HELIANTHUS has been worked upon for some years past, and the new *Helianthus tomentosus* (certificated under the name of *mollis*) is excellent for crossing purposes. It is certainly the most characteristic in the family, distinct in foliage and formation from any of the others, and one that does not run about.

HELIOPSIS LEVIS is still capable of further improvement. The colour is unique at that season of the year, and for cutting invaluable, but it is not a good habit. A variety 2 feet or 3 feet high covered with rich orange flowers would find many admirers.

THE ORIENTAL CHRISTMAS ROSES are very useful, but I do not think can be much improved upon; they are no good for cutting, and never will be, but in a shrubby border they are very useful.

It is possible to get some fine varieties of *HEMEROCALLIS*, but they will have to be remarkably distinct to find favour with the public. Commercially there is not much value in them, I suppose from the fact that they cannot be killed.

Among the *HEUCHERAS* there is a possibility of very great improvement. A crimson *H. erubescens* would make a charming plant, and as these are easily crossed and the results quickly seen would be a nice family for some impatient enthusiast to take up. *H. zabeliana*, a Continental introduction, is one of the first hybrids we have, and a very good plant it is. *H. sanguinea* appears to be degenerating. Even the variety *splendens* does not come up to the standard of what I grew in my private garden at Tottenham. Originally there were six plants—one died on the road—brought by Dr. Murray from Lower Mexico, which he gave to me. The description he gave of this species growing wild was of a plant 3 feet or 4 feet high, with flowers more than double the size, and scores of branching spikes emanating from

quite small clumps, and when he saw them at Tottenham for the first time he was more than disappointed, and did not consider the plant worth the trouble he had bestowed upon it. The spikes he saw at Tottenham were far more beautiful than those usually seen in English gardens.

The *IRIS* present a fine field for the hybridiser, although they are not so easily managed as one might suppose. We have had a few new varieties of *Germanica*, a good many new varieties of the *obliensis*, and a few hybrids of Max Leichtlin and Sir Michael Foster, and a few others are the nett proceeds of the last twenty years. There has never been much done in the way of hybridising, Max Leichtlin being one of the first. One of the best of his was *Warei*, a cross between *I. susiana* and one of the *Germanica* sections, but he does not appear to have been very successful with them. Sir Michael Foster has many hybrids, some most charming, and he appears to be crossing everything. His monspur sections are good, the result of crossing *Monnieri* and *spuria*. *Parsam*, a cross between *paradoxa* and *sambucina*, is very pretty, and there are many others that we know little about. I had almost forgotten the *Iris Kämpferi*. A marvellous change has taken place in these since the late Baron von Siebold introduced his first set from Japan. These had quite small flowers, and were not worth growing by the side of those now in cultivation. I believe the first information we had of these large ones was at Tokenhouse Yard, when Messrs. Protheroe and Morris offered some thirty or forty clumps, one or two plants of each variety, accompanied with the usual Japanese drawings. These caused quite a sensation, and realised several pounds a clump. The Japanese were not slow in sending over many more, and for the last twenty years a regular trade has been done in them, but I do not think we have any more varieties now than then. *Iberis*, *Inulas*, *Lathyrus*, *Linums*, and *Linarias* we must pass. All are good popular families, from which improved varieties could be obtained.

THE *MEGASEA* has received a fair share of attention, Mr. Smith having raised a great number of seedlings, some very interesting, but there are not enough whites and light shades of colour. Unfortunately, this family has never been very popular with the public.

THE EVENING PRIMROSES present many opportunities for hybridising and selection. Sooner or later we shall have some one finding a white macrocarpa or fruticosa, both of which would be eagerly sought after, and if whites, why not roses and reds? Has anyone seriously attempted to cross this family? I have never heard of one, and I feel sure they would pay well for a little attention.

I must not pass the *PENTSTEMONS* without mentioning *P. heterophylla*, a lovely Californian species of a beautiful blue colour. I see no reason why we could not get blue ones among the hybrids, seeing both are very similar in growth.

POTENTILLAS.—What a wealth of colour we have in the hybrid *Potentillas*. The combinations are marvellous, but all are spoilt by the lazy habit of the plant. Could we not obtain a new set, less rampant in growth and erect? If we could it would be a great boon, for we have no other family possessing so much brilliancy of colour.

SCABIOSA CAUCASICA is now producing a good range of colour, and, as they can be propagated by division, will become very useful. Unfortunately, they are slow in increasing, and it will be some years before we see much of them. Some of the new shades are delightful.



THE NETTLE MULBERRY (LAPORTEA MOROIDES) IN THE TRINITY COLLEGE BOTANIC GARDENS, DUBLIN.

The SPIRÆAS are an important family and great favourites, and there is no question that many improvements can be made in them, especially in point of colour. A coloured variety of *S. japonica* or *S. Arunens* would cause quite a sensation. I would not say they can be obtained, but I know they are well worth trying to get.

We have a good pink variety of *Spiræa gigantea*, and I remember having offered to me a bright pink variety of *S. Filipendula*, but such a fabulous price was asked that it was impossible to secure it. Twenty-five years ago this class of plant was at a very low ebb. What became of it I never knew, but I can see it in my mind's eye now, and should like an opportunity of obtaining it.

SEDUM SPECTABILE contains many points of great merit, and if we could get a batch of seedlings, improvement only in colour would be a great commercial success.

The STATICES are becoming more popular now attention has been given to selection, &c. In *S. Limonium* we have a very variable species, varying from the purest white to all shades of blue and pink, with dense flower heads 2 feet across. The individual flowers are smaller than those of *S. latifolia*, but far more graceful for cutting. These are much sought after for this purpose.

There are hundreds of other families that

really large trees, the latter attaining a height of 80 feet. *L. Schomburghii* variegata from Polynesia is a very handsome variegated kind not often seen in gardens. There are in all about twenty-five species, a few inhabiting extra tropical North America and Mexico, none being found in South America. The illustration, taken by Mr. George E. Low in Trinity College Botanical Gardens, Dublin, shows the port and aspect of a small-fruited plant grown under ordinary stove or hot house treatment. The fruit lasts fresh nearly a year.

F. W. BURBIDGE.

TREES AND SHRUBS.

IVY AND ITS USES.

ALTHOUGH already appreciated as an ornamental plant, Ivy is not nearly so much employed or in such a variety of ways, especially in small gardens, as it might be. It is, indeed, but rarely seen in its highest development. Its chief employment is to drape old walls and fences, or to cover unsightly buildings, and for that purpose it is eminently adapted. There are, however, several other methods of putting it to good use in gardens to which attention may be directed. Indeed, there is no evergreen plant which can be put to so many uses, and none which

will thrive with less attention and under more adverse circumstances.

Under trees where nothing else will flourish the Ivy is quite at home, and forms an evergreen carpet of leafage. When Ivy can climb no higher, it branches out and forms irregular masses—assumes in fact a shrubby character. In this state it is seen to great advantage, as it then flowers and becomes covered in winter with rich purple-black berries. Those who may find it needful to cut the tops of trees in their gardens should leave here and there a stem, merely lopping away the boughs, and plant Ivy against it. It may also be used to clothe the large pots, tubs, and vases (unless these are well designed) that hold flowering plants during the summer. Quite recently I noticed on a grassy slope by the edge of ornamental water dense masses of Ivy with no visible support. I was inclined to think that they had overgrown and smothered some low bushes, but on inquiry I found that each was only a single plant that in the first instance had been tied to a stout stake and afterwards allowed to train itself. This they had done effectually, and some beautiful symmetrical heads of glossy foliage, thickly set with black berries, formed very pleasing objects, presentable at all seasons. One can fancy nothing more beautiful than a group of distinct varieties of Ivy trained up stout pieces of branches and grouped in a quiet corner of the lawn or pleasure ground. Such a method has various advantages over training on walls—the varieties one to each stump, are more easily kept distinct, while the Ivy seems to thrive and look better than it does on walls. Ivy may also be used to form screens to protect tender plants from cold winds or hot suns. The small-leaved wood or wild form is also useful with flowers in vases.

It has often been said that Ivy has a tendency to make buildings damp, but, wherever that has been the case, it arises from neglect in not having it properly trimmed, or in allowing it—and this it soon does if neglected—to take possession of the water gutters or pipes, and thus cause overflow. To have Ivy in good condition it should be cut in close, taking off all the old leaves every spring; about the end of April is the best time. Of late years a very considerable use has been made of it in ornamental gardening as edgings to beds and borders, and sometimes for forming patterns of dwarf dark green foliage that look fresh and beautiful at all seasons, but especially so in hot weather when the grass is scorched up.

It is also one of the very best plants for forming a green carpet under close growing evergreen trees, where nothing else will grow, but occasional watchfulness will be necessary to prevent it climbing up the trees and taking possession of the main branches. The small-leaved variegated Ivies may with advantage be introduced here and there amongst rock and root work. Being of comparatively slow growth and of smaller dimensions than the green ones they are easily kept in bounds. If trained along the lower part of rock work they form a neat and pretty edging, affording a charming contrast to Ferns and other dark foliated plants. In a north or shady aspect the variegation is much purer and better defined than when they grow in full sunshine.

Kippen.

WM. CHRYSTAL.

FREMONTIA CALIFORNICA.

THIS handsome deciduous Californian shrub, about which a note appeared in these columns a few months ago, presents a charming sight when in vigorous health and flowering freely. One of the most valuable characteristics of this shrub is its lengthened blooming period, its saucer-shaped, bright yellow blossoms, from 1 inch to 3 inches in diameter, being often in evidence for two or three months. It can scarcely be deemed hardy, although it has been successfully cultivated in the open as far north as Cheshire, and is usually treated as a wall shrub, in such a position sometimes attaining a height of 20 feet. In the south-west wall protection is not absolutely essential, for I have seen healthy specimens growing in bush form. One that I saw during last summer was about 8 feet in height and almost as much in diameter, and was



IN THE BAMBOO GARDEN AT KEW (JANUARY, 1902.)

(Showing in centre *Bambusa palmata*, on left hand *Phyllostachys Quilicoides*, and on right hand *Bambusa tessellata*.)

covered with bloom. The great fault of *Fremontia californica* is its unaccountable liability to die off suddenly, although apparently in the best of health up to the time that the first symptom of loss of vitality is noted. The owner of the example I have just mentioned informed me that he had had a much larger specimen growing against a wall which had died off in this manner, and I have known other instances of similar occurrences. Some advocate growing the *Fremontia* in partial shade, but I have seen plants whose condition left nothing to be desired exposed to the full sunshine, and it is improbable that in its native Californian habitat the *Fremontia* is capable of obtaining much protection from the rays of the sun. We are told that for several years after the first specimen raised from seed in this country flowered (in the year 1854) all attempts to propagate it proved fruitless. Now, however, healthy young plants may be procured for 5s., a price that puts their purchase within the reach of even limited incomes.

S. W. FITZHERBERT.

THE FLOWER GARDEN.

CARNATION GRENADIN.

IT is somewhat strange that this beautiful and useful Carnation, of which there are two forms—the red and the white—is not more generally grown, especially by florists, as it is invaluable for bouquets, button-holes, and dinner table decoration during June. It is astonishing what a quantity of bloom even a single plant will produce. It should be treated as an annual, for it makes little or no grass and cannot be increased by cuttings. The seed should be sown in April in fine loamy and leafy soil, and placed in a temperature of 60°. Place a pane of glass over it, and water sparingly till the seedlings appear. Keep them near the glass, and when the second pair of leaves has formed prick them off and keep the plants in an intermediate temperature till established, shading them from bright sun. About the middle of May remove them to a sunny frame and gradually harden them off, finally planting them out on an open sunny border in June. Thus treated they will produce

their brilliant flowers the following summer quite a month earlier than the ordinary border Carnations.

J. CRAWFORD.

THE CULTURE OF THE RANUNCULUS.

THE *Ranunculus* family is a large and widely distributed one, being represented in most parts of the Old World and in the Southern Seas, and includes our English Buttercups (*R. bulbosus*, *acris*, and others), the Water Crowfoot (*R. aquatilis*), which is only less common than they; Fair Maids of France (*R. aconitifolius* fl. pl.), and many others, including the subject of this article. It is, in fact, the principal family of that important natural order the Ranunculaceæ which gives us our Clematis, Delphiniums, Lenten and Christmas Roses, Aquilegias, Hepaticas, Anemones, and other favourite garden flowers. In this article we are going to consider the flower which in common parlance is spoken of as the *Ranunculus par excellence*, *R. asiaticus* (the Turban Buttercup). There are several varieties of this, the two most generally grown being the Persian and the Turkish, or Turban. The former is generally considered the finer variety of the two as regards colour and fine form of flower, though the latter runs it pretty close and is of larger and hardier growth, and therefore better suited for general culture. The brilliant colours of both are too well known to need description. Other varieties are Dutch, Scotch, Italian, French, and a cross between the Turkish and Persian known as the Giant Turco-Persian, which is of strong growth and very free-flowering. The French variety is the most popular next to the Persian and Turkish.

The culture of these gorgeous late spring and early summer flowers is fairly simple where the natural conditions are suited to them, but where this is not the case they need some little care. Florists' catalogues say that they will grow in any ordinary flower border enriched with manure, but this is not strictly true, as the writer has more than once proved to his cost. The conditions best suited to them are a rich, moist sandy loam in an open position, where they will not be too much exposed to the cutting winds and night frosts of April and sometimes May. The soil, where not already perfectly suited to them, should be well

dug in the early part of the winter and dressed with about a third of its bulk of decayed leaf-mould and rotted manure. This should be allowed to settle for a month or six weeks, and then as soon as a little fairly dry weather comes in February—not later than the third week if possible, nor earlier than the first, though never when the ground is sticky—the roots should be planted in the following manner: The 2 inches of the top soil should be taken off, and then the roots or tubers gently pressed into the soil, claws downwards, 3 inches or 4 inches apart. They should then be covered with sand. Cover the whole bed if there is a plentiful supply, and there is nothing better for this, where they can be got of good quality, than road sweepings, three parts sand and one part manure, which have been laid up for a year; or, if this cannot be done, a little sand should be put over the crown of each tuber. Then the original soil should be put back, so that it is about 2 inches deep over the crowns. If the soil lies very light it should be beaten down a little with a spade, though not so as to make it cake together. It is a safe plan to cover the ground with some strawy mantre or other light material to give protection from frost, and this should be removed in the middle or latter part of March, or as soon as the leaves begin to appear.

The *Ranunculus* cannot stand having its roots at all dry, so that if there is a dry May they should be watered, and if some guano or other soluble plant food is first sprinkled on the surface it will be beneficial. Indeed, it is a good thing to do this in any case as soon as the plants are up, as it will strengthen the flower-stems, improve the foliage, and give substance to the blossoms, as well as heighten their colour.

The tubers should not be left in the soil all the year round, as they are almost certain to get injured by the continued dampness when they are not in active growth, sometimes getting rotten altogether if the soil is a damp one, and almost always coming up weaker the second season. They should be taken up as soon as the leaves have died off, and, after being harvested, should be put in sand and stored away in a cool place till the following February. Tubers should always be bought of a reliable firm, as if stored carelessly and allowed to get too dried up they are very unlikely to do much good. Salesmen with a stock of tubers on hand will often persuade the unwary to buy as late as April and May, but it is almost sure to mean disappointment, as the tubers which have been kept in the shop till then have got most of the vitality dried out of them.

ALGER PETTS.

SOWING CARNATION SEED.

IT is so easy to raise a good batch of Carnations from seed now, getting in that way really capital varieties, that it is a matter for surprise the method is not more largely availed of. Anyone having a greenhouse or frame may at once get and sow seed of the beautiful *Marguerite*, a practically annual strain, and thus with very little trouble have plants to flower freely in the autumn. Some of the plants may be put out on a garden border, where in time they will bloom. Others may be grown on first in 3-inch pots, then in 6-inch pots, to bloom in a warm greenhouse through the winter, being kept outdoors all the summer to make them sturdy. Or the plants may all be planted out, some being lifted and potted at the end of August and got well established in 6-inch pots before the winter sets in. Still, in either case their blooming would depend largely on the maintenance of comparative warmth in the greenhouse during the winter. Many of the seedlings thus obtained are so good that they merit perpetuation by means of cuttings. Still, seed is fairly cheap and stocks seem to

improve in quality every year. Good border Carnations in variety may be raised from seed sown in April or May in a cool house or frame, the chief thing in this case is to get seed of some good stock. There will always be in the best of stock some singles and plants that have rather straggling or tree habits; but if the proportion of really good varieties thus obtained be but small, say, 20 per cent. at least, when these are increased by layering, as they can be, there is a capital return for the original cost and labour obtained. From such sowing in the late spring plants should readily be strong enough to bear putting out in the late summer into good ground, and they will carry flowers the following year. Generally it is a good plan to plant out into a nursery bed where the best can be layered later, and then transfer the young plants to the flower beds or borders.

A. D.

THE PENTSTEMON.

PROBABLY no other hardy plant has been so much improved upon during recent years as the Pentstemon. When we consider and see the beautiful hybrids now in existence, and contrast these with the species and the progenitors of the present day hybrids, such as *P. Hartwegii*, *P. gentianoides*, *P. Cobaea*, &c., we may thoroughly appreciate what the hybridist has done for us.

The Pentstemon is propagated in two distinct ways, viz., from seed and from cuttings. Sow the seed in March, in shallow boxes filled with a compost of light soil, or if extra strong plants are required early in the year, the seed may be sown in August, and the plants grown on through the winter. Place the March-sown seeds in a slight bottom heat to germinate, which they usually do in a fortnight. As soon as the plants are large enough to handle, prick them off into other boxes, place them in a warm structure for a time, and gradually harden them off in a cold frame ready to plant out in May or the beginning of June.

Cuttings are best struck in the autumn. Select the young growths that may be found on the lower stems, slip off with a heel, or take 4 inches or 5 inches of the points of the leafy shoots and cut clean across below a joint. In the meantime prepare a cold frame, by making in it a bed of light sandy soil, and in this insert the cuttings firmly. Shade and keep close until they have struck, when air must be liberally applied in open weather. Do not allow the plants to get too dry, but water sparingly in dull weather.

The Pentstemon succeeds well in a deep and rather moist sandy loam. As a border plant it is unequalled, because when carefully attended to enormous spikes of beautiful and brilliantly-coloured flowers are produced through the summer and autumn as long as the weather keeps open. The plants may be either grown singly, in groups of three or more, or in beds. Preferably the second method succeeds best. Plant three roots of one colour here and there about a herbaceous border, and the effect will be very charming; or they may be used as a centre to large beds, in which case well-formed plants should be employed. When severe weather sets in, if it is desirable to retain the old plants for another year, cut the tops down and mulch the roots well with decaying manure. Generally speaking, young plants are preferred to old ones, as they produce finer spikes of flowers, and are in many ways superior to two or three year old plants.

There are so many fine forms and colours to be obtained from seedlings that named varieties are hardly necessary. Of the latter the following is a good selection:—A. C. Maxwell, Atlantide, Bertha Koch, Candidate, Claude Gellée, Diane, Dr. Tuke,

General Nansouty, H. Cannell, Her Majesty, John Pearson, Miss Arnot, Miss Salteau, Paul Bert, Princess, R. Dean, and The Lady.

J. DENMAN.

Bryubella, Tremreirchion, St. Asaph.

THE BAMBOO GARDEN AT KEW.

WITHIN the last ten years much has been done in our National Botanic Garden to bring every branch of gardening practised there up to date, and in so doing to make the gardens attractive and interesting by the introduction of many new and distinct features, by the grouping and massing of some particular class of plants, or by planting in quantity good shrubs and hardy plants.

To the professional or ardent amateur gardener these improvements are of great value, as a visit to Kew is all that is required to enable him to see at a glance the merits of the plants and the places they are best adapted to fill before a purchase is made. Nor is it altogether to the gardener that these additional attractions appeal. The ordinary visitor taking his Sunday outing cannot but be impressed by the distinctness of many of these new features after the monotony of many of the parks and gardens within his round of visits.

Among these special features the Bamboo garden stands out conspicuously as one of the most interesting, valuable, and beautiful, and particularly is it so in midwinter when most outdoor plants are seen at their worst. Kew was one of the first gardens in which hardy Bamboos were grown, and it is to a great extent due to the Kew collection and the collections of Mr. Freeman Mitford, Messrs. Veitch, and a few other pioneers that the planting of hardy Bamboos has assumed its present proportions.

The creation of the Kew Bamboo garden dates back to 1892. Previous to that the cultivation of hardy Bamboos had been practised under great difficulties. The collection con-

tained only a few species planted in poor soil in an exposed position, and were always unsatisfactory. In addition to Bamboos there were other monocotyledonous plants in the same plight, hence the happy idea was conceived of forming the present Bamboo garden.

This garden is situated on the eastern side of the Rhododendron dell, near the north or Sion Vista end. It was originally a shallow gravel pit, and is peculiarly adapted for the requirements of Bamboos. The depression in the ground and the high bank of the Rhododendron dell afford considerable shelter, whilst a wide belt of large forest trees which surrounds the north, east, and south sides ensures complete protection from cold winds. The garden is Pear-shaped, and can be entered by three gravel paths on the south-east, west, and north sides. The banks round the sides are terraced and held up by large tree roots placed roots outwards, the roots forming numerous bays and cosy corners, each of which is given over to one species. Separated from these bays by a gravel path 9 feet wide is a central bed of about a quarter of an acre. This is filled with large clumps of various species and fine single specimens arranged in such a way as to open a vista right through the bed here and there or into the centre. These vistas and openings, together with the paths, add greatly to the general effect, the plants and groups being well separated and showing to advantage, while the beauty of the stately upright stems of some and arching plumes of others lining or bending over and almost meeting across the openings is at once seen. Intermixed with the Bamboos are Yuccas, Miscanthus, Pampas Grass, and other things, all of which help to give pleasing variety. Between the back of the garden and the belt of trees a screen is formed of *Rosa multiflora*, *Rhododendrons*, *Spireas*, and other shrubs, interspersed with clumps of Pampas Grass, Yuccas, and some of the strongest and hardiest of the Bamboos.

When first formed stiff loam to a depth of



GROUPING OF YUCCAS, PAMPAS GRASS, AND BAMBOOS AT KEW (JANUARY, 1902.)

3 feet was spread all over the garden, and into this large quantities of decayed leaves were mixed: in this soil the plants have thriven well. A water main runs through the garden, so that copious supplies of water can be given in dry weather with little trouble.

Altogether some forty-one species and varieties of Bamboos are cultivated. These are composed of seventeen *Arundinarias*, nine *Bambusas*, and fifteen *Phyllostachys*. The majority belong to China and Japan, one, however, belonging to North America, and one to India. The Indian species, *Arundinaria* (*Thamnocalamus*) *Falconeri*, which does so well in the south-west counties and in Ireland, is the most difficult to manage, and is killed to the ground every winter, while *A. falcata* and *A. nobilis*, which are two of the most common species in the famous Cornish gardens, refuse to thrive.

The arrangement of the plants has undergone considerable modification since the first

good idea is given of the effect produced by Bamboos in the garden. In the foreground is seen a clump of *Bambusa tessellata* with leaves 9 inches to 1 foot in length and nearly 3 inches wide. This is the largest leaved of the hardy species. In the background will be seen a fine mass of *B. palmata* with considerably taller stems and rather smaller leaves than *tessellata*. The tall plant on the left is *Phyllostachys Quiloi*, while others shown are *Arundinaria auricoma* and *A. Simoni* and *Phyllostachys mitis* and *P. boryana*.

Of groups and single specimens the following are some of the most conspicuous:—

ARUNDINARIA.

A. Simoni—A fine irregular mass, 16 feet high and 50 feet across.

A. nitida, several fine clumps, 11 feet high and 12 feet across.

A. japonica, several large clumps, 11 feet high and 20 feet across.



MISCANTHUS SINENSIS IN THE BAMBOO GARDEN (SHOWING THE BEAUTY OF THE DEAD FOLIAGE IN WINTER).

planting, owing to natural development and the introduction of more species. This has resulted in the removal of many duplicates which have been used with large *Rhododendrons* as an undergrowth to the wood adjoining the entrances, thus considerably enhancing the beauty of the place.

The period of the year at which the garden is at its best extends from the early weeks of July until the cold east winds in February and March, for, although severe frost has little effect on the leaves of many, cold winds from east or north quickly turn them brown. That Bamboos should continue in good condition and practically be at their best through the worst of the winter months is a strong recommendation in their favour, and by leaving, as is done at Kew, the tall dead stems and leaves of *Miscanthus* (see illustration) and the plumes of the Pampas Grass touches of colour are given to relieve the greenery, and add greatly to the general effect.

In one of the accompanying illustrations a

A. Hindsii var. *graminea*, 9 feet high by 12 feet in diameter.

BAMBUSA.

B. palmata, 7 feet high and 15 feet across; this is very distinct and handsome, and should be in every collection.

PHYLLOSTACHYS.

P. aurea, 12 feet high by 16 feet through.

P. Henonis, 15 feet high by 12 feet.

P. Castillonis, 12 feet high by 10 feet.

P. nigra, 15 feet high; several fine masses.

P. viridi-glaucescens, 15 feet high and 6 feet through at the base, the top spreading to 20 feet. There is also a fine specimen of this in another part of the garden.

Besides these there are many other fine masses.

Among plants other than Bamboos found in the garden the *Yuccas* are possibly next in importance. One group is on a bank on the north side having a slope to the south. It is thus exposed to full sun and the plants are

happy. In both summer and winter the group forms a delightful picture. The groundwork is composed of the elegant glaucous-leaved *Y. angustifolia*, while here and there a plant of *Y. filamentosa* has crept in. Height is given to the group by dot plants of *Y. gloriosa* and *Y. recurvifolia*, while a plant of *Coton-easter thymifolia* growing between the roots in front adds a little in the way of variety. The whole picture is set in an irregular framing of Bamboos and other plants, some of the most conspicuous of which are *Miscanthus sinensis* in front, *Arundinaria japonica*, *A. Hindsii* var. *graminea*, *Phyllostachys aurea* and *P. Castillonis*, and Pampas Grass at the back and sides.

A collection of hardy species of *Smilax* is allowed to ramble at will over the tree roots which form the bays, each species having its own particular place. The species cultivated are *S. aspera* and its varieties, *S. maculata* and *S. mauritanica*, *S. Bona-nox* var. *hastata*, *S. hispida*, *S. rotundifolia*, and *S. tannoides*.

In addition to the plants named others given places in the garden are *Kniphofias*, *Funkias*, *Eremuri*, *Physalis* (grown for winter effect), *Ruscus*, *Asparagus*, &c., the whole forming an interesting collection, and one which must be seen to be fully appreciated.

Below are given the collections as seen in 1892 and the present time (1892 from "Kew Bulletin," page 152).

ARUNDINARIAS.

A. Fortunei, *A. japonica*, and *A. Falconeri* (*Thamnocalamus*).

BAMBUSAS.

B. albo-striata, *B. gracilis*, *B. nana*, *B. palmata*, *B. plicata*, *B. pumila*, *B. tessellata*, and *B. Veitchii*.

PHYLLOSTACHYS.

P. bambusoides, *P. nigra*, and *P. viridi-glaucescens*. (Since 1892 many of the names have been corrected).

COLLECTION AT PRESENT TIME.

ARUNDINARIAS.

A. anceps, *A. auricoma*, *A. chrysanthra*, *A. Falconeri*, *A. Fortunei*, *A. F. compacta*, *A. Hindsii*, *A. H. graminea*, *A. humilis*, *A. japonica*, *A. macrosperma*, *A. m. tecta*, *A. nitida*, *A. pumila*, *A. Simoni*, *A. S. variegata*, and *A. Veitchii*.

BAMBUSAS.

B. agrestis, *B. angustifolia*, *B. disticha*, *B. marmorea*, *B. Nagashima*, *B. palmata*, *B. pygmaea*, *B. quadrangularis*, and *B. tessellata*.

PHYLLOSTACHYS.

P. aurea, *P. bambusoides*, *P. boryana*, *P. Castillonis*, *P. flexuosa*, *P. fulva*, *P. Henonis*, *P. marliacea*, *P. mitis*, *P. nigra*, *P. n. punctata*, *P. Quiloi*, *P. ruscifolia*, *P. sulphurea*, and *P. viridi-glaucescens*. W. DALLIMORE.

EARLY-FLOWERING SHRUBS.

The mild weather of the last few weeks has been very favourable for the flowering of the earliest shrubs, and now (January 10) there are in the Royal Gardens, Kew, upwards of a dozen species and varieties in or approaching full flower. Possibly the most striking are the *Hamamelis*, of which four species and varieties are now at their best. These alone make a charming display, the light, spidery-looking yellow blossoms with their curiously twisted or hooked petals smothering the leafless branches, and being particularly fascinating when seen on a sunny day. Of the four *H. arborea* is

represented by several fine specimens, and is known by means of its tree-like habit and deep yellow flowers, with narrow twisted petals and reddish brown sepals and anthers.

Easily distinguished from this by its dwarf, bushy habit, rather paler, less twisted petals, smaller anthers, and green and dull brown sepals is *H. japonica*, while the variety of this known as *zuccariniana* clearly shows its distinguishing points, pale lemon-coloured petals and reddish brown sepals.

The new Chinese species (*H. mollis*) is represented by several plants which are flowering well. It is peculiar by reason of its young stems, leaves, buds, and sepals being covered with a dense felt-like covering of silky hairs. The flowers, too, are larger than those of the others mentioned, while the petals are straight, except for a curved point. It is also more fragrant than the others.

In a sheltered nook not far from the Temperate house some well-flowered plants of *Rhododendron dauricum* make a charming picture, the rosy purple flowers having a pleasing effect at this time of year.

Hard by *Erica mediterranea* var. *hybrida*—which is the best of the hardy Heaths—though less conspicuous than the *Rhododendron*, is quite as pretty, and in the event of a sharp frost or two will continue to flower after the *Rhododendron* blossoms have been killed. In other places a delightful perfume denotes the presence of *Daphne Mezereum*, and on turning corners the bright coloured blossoms do not take us by surprise.

Lonicera Standishii, though not in full blossom, adds fragrance to the air, and bids fair to be a mass of white flowers at no distant date. *Chimonanthus fragrans* var. *grandiflora* has been flowering for weeks, and has still many unopened buds, while belated *Arbutus* blossoms may still be seen. A few flowers are open on *Erica carnea*, and each mild day will add many more. Flowers are to be found on *Osmanthus Aquifolium*, while pillars, walls, and other places are made bright by the countless blossoms of *Jasminum nudiflorum*.

W. DALLIMORE.

AN ARTIST'S NOTE-BOOK.

CYPRIPEDIUM MORGANIÆ

FOR this superb *Cypridium* we are indebted to Mr. John Seden. It is the result of intercrossing *Cypridium superbium* (*veitchianum*) and *C. Stonei*, and was named in compliment to the late Mrs. Morgan, who, in the early eighties of the last century, was one of the most prominent Orchid enthusiasts in America. Although this hybrid has been in commerce considerably over twenty years, and has been raised in other establishments, it is by no means common, and when offered for sale commands good prices.

The scape is two or more flowered, the upper sepal white with a flush of pale rose on the margins, while there are numerous prominent

purple veins extending from the base outwards, alternated with light greenish thinner veins; the lower sepal is similar, but with fewer purple markings. The petals are 6 inches or more long, pale greenish yellow, marked with large blackish purple dots, which

it received a first-class certificate from the Royal Horticultural Society.

C. Morganie is of robust habit, for no plant can be more easily grown. It is not, however, free flowering, for it is a most erratic plant in this respect. It has no particular season of flowering when in a small state, in which condition it blooms very well. As a large specimen it is altogether most unsatisfactory, even when kept in restricted quarters and every inducement used to assist it to flower.

It is a constant complaint, and one that it is difficult to account for. I know of



CYPRIPEDIUM
MORGANIÆ.

(NATURAL SIZE.)

(From a drawing by
H. G. Moon.)

are more prominent towards the tips. The lip is purple shading to green, and has prominent purple reticulations and veins.

The sub varieties are *C. M. burfordiense*, which was raised by the late Mr. Spires in Sir T. Lawrence's collection at Burford, Dorking. This, when exhibited in 1892, had undoubtedly finer markings than the typical *C. Morganie*, but I have since seen many under the Burford name in cultivation which would be difficult to distinguish from the original.

C. Morganie langleyense, also raised by Mr. Seden from the intercrossing of *C. superbium* (*veitchianum*) with the pollen of the rare *C. Stonei platytenuum*, has the longer petals with the characteristic prominent spotting of the last-mentioned parent. Full particulars of this wonderful variety will be found in THE GARDEN report of the Drill Hall meeting held on January 16, 1894, when

instances where plants have been grown well for years without producing a single flower scape. What is still more perplexing they used to flower in a smaller state grown under precisely similar conditions. There is no doubt that *C. Stonei* is responsible for this, as it is shy flowering.

C. Morganie grows well in the warm intermediate or stove house, placed in a light position within reasonable distance of the roof glass. The pots should be sufficiently large to contain the plants comfortably, and filled to two-thirds their depth with clean broken crocks, the compost consisting of about equal portions of fibrous peat and sphagnum moss pressed moderately firm about their roots.

H. J. CHAPMAN.

THE INDOOR GARDEN.

SCENTED-LEAVED PELARGONIUMS AND THEIR CULTURE.

SECOND, if not equal, to the zonal Pelargonium itself comes the Scented-leaf Pelargonium, which, after a period of comparative neglect, has again come into favour. It is unsurpassed as an addition to plants for the house and window, but how seldom do we see them well grown. They are either all stem and no leaves, or, on the other hand, stunted, with the few remaining leaves all yellow and sickly. Such a state of affairs should not be, for, provided the plants are looked after when young, they seldom fail to make good specimens.

Failure in the growth is attributed to three causes, namely, the choosing of weak, insufficiently ripened cuttings, instead of stout, strong, well-ripened shoots, want of enough sun to thoroughly ripen the growths, and too great heat and drought during summer.

As to the propagation, it is much the same as in the case of zonals. They are best struck from cuttings procured about February. Select well-ripened tips, cut off the base below a leaf, and insert the cuttings in a 5-inch pot filled with a compost of sandy loam. Place them in a slight bottom heat until they root: when well rooted turn them out of the pots and repot singly in 3-inch pots, using a compost of loam, leaf-soil, and sand in equal proportions. After potting, place them on a shelf in a cooler house, and do not make the soil sour by over watering.

In two or three weeks, provided the plants are growing and well rooted, pinch out the growing point so as to form the future base of the plant; this, if neglected, would result in an unsightly bare stem and an ill-balanced top. When the plants start into growth once more repot them into 6-inch and 7-inch pots. If there is one thing more than another that tends to kill these plants it is over coddling them, therefore put them at once in their flowering pots, using a compost of fibrous loam, leaf-soil, sharp clean sand, and a small quantity of well-decayed cow manure, in the proportion of two-thirds loam to one-third of the manure. Do not forget to pot firmly, as a good deal of future success depends upon it.

About the middle of June remove the plants into a cold frame, and keep on the lights for a time to ward off heavy rains. It must be remembered that these Pelargoniums are grown more for their fragrant leaves than for the flowers, therefore pinch out the points of the shoots when they have made two leaves, and let this be repeated, but if one part of the plant does not attain the size of the rest leave it untouched in order to obtain a well-proportioned head.

Watering must be carefully looked to. If well rooted the plants may require water more than once a day; be careful not to let them flag, which destroys their vitality. Twice a week supply them with weak liquid manure, once with a mixture of Clay's manure, once with a weak solution of soot; this will tend to keep the leaves from turning yellow and falling. Let the plants have an abundance of light and air.

They prefer a light, airy house—facing south if possible—in order to enable the heat of the sun to dry up superfluous moisture, &c., during winter. Put the plants inside about the end of October if the weather allows their being left out so long. Avoid pouring any extra water about the house, as it causes the foliage to damp off. When the weather is very cold give a little fire-heat; give air whenever possible, as it tends to keep the atmosphere sweet, without which the grower's chief enemy, greenfly, will appear. For the destruction of this pest frequent syringings with soapy water are best, failing which fumigation must be resorted to, for once greenfly is established it is almost impossible to check it without destroying the plants.

To obtain specimens, cut the plants down to an

eye, pointing outwards, when the season is over, and put them in a warm place, syringing them occasionally with tepid water. When they have started into growth shake out the old soil, trim the roots, and repot the plants in suitable pots, giving them the same treatment as one year old plants. Varieties: Capitatum, rose-scented foliage; Pretty Polly, almond scented; Tomentosum, foliage scented peppermint; Lady Mary Fox, nutmeg scented; Shottersham Pet, filbert scented; Radula major, citron scented; Fragrans, very fragrant; La Cygne, splendid variety; Crispum, citron scented; Pheasant's Foot, fragrant, fine for bouquets.

JOHN DENMAN.

Brynella, Tremeirchion, St. Asaph.

NEW JAPANESE CHRYSANTHEMUMS.

(Continued from page 38.)

THESE notes on new Chrysanthemums are a continuation of a series which began in THE GARDEN of January 11 last and continued in the succeeding issue. In this instance prominence is given to large exhibition varieties, and with very few exceptions those named received an award of merit or a first-class certificate. The respective floral committees of the National Chrysanthemum and Royal Horticultural Societies were by no means overlavish in their awards, and on this account one is assured that the novelties submitted were of first-rate quality.

Queen Alexandra.—A striking novelty of a bright fawn colour, pleasingly suffused rosy salmon and with a pale straw-yellow reverse. The florets are long, very broad, and build up a large and handsome exhibition flower. The raiser says let the plant make a natural break, or pinch out the point of the growth in late March. Any buds developing towards the third or last week in August should give good results. Awarded first-class certificate by the National Chrysanthemum Society, October 8 last.

Edward VII.—Another distinct Japanese bloom and splendidly exhibited at the October show of the National Chrysanthemum Society. The colour is a shade of rosy crimson with light bronze reverse. The florets are broad, long, and are also slightly curled and incurved at the tips. This is another instance in which the raiser suggests stopping the plant at the end of March, and subsequently retaining second crown buds. Award of merit, National Chrysanthemum Society, October 8.

Star of Africa.—This is a variety that the National Chrysanthemum Society's floral committee desired to see again. It is a flower of considerable promise, having long tubular florets of good width, which make a bloom of exhibition proportions, reminding one of well-grown specimens of Vicar of Leatherhead. The exhibitor said this plant was a seedling from the invaluable Mrs. W. Mease (the primrose Mme. Carnot). Colour clear yellow, with a deeper shade of the same in the centre.

Sensation.—Undoubtedly one of the most promising Japanese novelties of the season. The flowers are very large, of massive build, developing very broad florets of good length and splendid substance, and when finished, slightly incurved at the ends. The colour may be described as deep yellow, freely suffused with reddish crimson. As an exhibition flower it should occupy a prominent position in the succeeding November shows. Crown buds towards the third week in August are likely to prove satisfactory. First-class certificate, National Chrysanthemum Society, October 8.

Godfrey's Triumph.—This is a handsome flower of good form, the colour, rich deep glowing crimson, with a golden-bronze reverse. It is said to be a seedling from the well-known M. Chenon de Leche, and with such a good parentage may be considered an exhibition bloom of great promise. The florets are of good length and medium width, and are also slightly twisted and curled, and finish a flower of good substance. First-class certificate, National Chrysanthemum Society, October 21; also award of merit, Royal Horticultural Society.

Mrs. C. Griffen.—When placed before the National Chrysanthemum Society's floral committee the flowers of this variety were not nearly "finished," and in consequence could not be dealt with. A request to see the variety again was, however, made, and another season will probably see this variety rivaling many existing popular yellow exhibition sorts for favour. The flower is very large and spreading, having very long florets pleasingly drooping, and the colour may be described as a pretty soft yellow. Exhibited October 21.

Bessie Godfrey.—This is a much-talked-about variety. It is a large handsome spreading flower, and a welcome addition to the pale yellow Japanese varieties for exhibition. Florets long and of medium width, charmingly curling and incurving at the ends, building up a flower of good substance. When placed before the National Chrysanthemum Society on October 21 last the flowers gained full points, and in consequence secured a first-class certificate. The raiser suggests stopping the plants in mid-April, and also volunteers the information that blooms from a second crown selection are sometimes tinted rose-pink colour at the base.

May Vallis.—This is a lovely clear rose-coloured Japanese flower with a silvery reverse. It should be included in all collections on account of its beautifully even form and distinct shade of colour. The raiser says the colour is rosy amaranth, but as exhibited, the former description is more correct. The florets are of good length, medium width, and also slightly twisted, and develop a large bloom of drooping form. The National Chrysanthemum Society wished to see this variety again. Staged October 21.

Godfrey's Masterpiece.—Few flowers secured the maximum award in points when placed before the National Chrysanthemum Society's committee last season, and this variety was one of the small number. The form may be described as superb, the florets being long and broad, neatly and evenly recurving, and slightly indented and incurving at the ends. The colour is a telling shade of reddish crimson with golden-bronze reverse. For exhibition this variety is sure to take a leading position. First-class certificate, National Chrysanthemum Society, October 21, and award of merit, Royal Horticultural Society.

Exmouth Crimson.—Japanese varieties of warm colours were more plentiful in the past season than they have been for some years, and this is another decided acquisition. For exhibition this new variety has much to commend it. It is large and of good form, developing long florets of good breadth and splendid substance, incurving at the ends. When finished the flowers are of good depth. The colour in this instance is a lovely crimson-lake on the inside and a golden-bronze reverse. Full points secured. First-class certificate from the National Chrysanthemum Society, October 21. It is said to be of easy culture, crown buds from natural break developing well.

The Baron.—This variety has since been catalogued under the name of Charles McInroy. When submitted to the National Chrysanthemum Society on October 21 last it was a fairly large bloom of chestnut-crimson colour suffused with gold, and with a rich gold reverse. The florets are broad and massive-looking, incurving at the ends, and develop a spreading flower of great substance. This plant also has the reputation of being one of easy culture.

C. Penford.—An incurved Japanese bloom of great solidity, having rather short and fairly broad florets of good substance, incurving at the ends. The colour is not altogether pleasing, and may be described as rosy red with pale bronze reverse. Award of merit, National Chrysanthemum Society, October 28.

Mrs. E. H. Hummel.—For grace and beauty this flower stands pre-eminent. It is an undoubted gem of which, so far as one has been able to trace, little has been heard. Some beautiful blooms were placed before the National Chrysanthemum Society's floral committee on October 28 last, and received the distinction of a first-class certificate. It is a large Japanese flower of drooping form,

having very long—the raiser says 9 inches—florets of good breadth, and twisting and curling in a most charming way. The colour is a soft rose tint on a cream ground. Mr. H. Weeks says this variety should be grown in 10-inch pots, and the plants should be stopped in March for second crown buds. Height about 4½ feet.

H. E. Hayman.—A very large and broadly built incurved Japanese bloom of splendid substance, developing broad florets, which are slightly curled and incurved at the ends. This flower is of massive proportions, and of a bright rosy crimson colour inside and a golden reverse. First-class certificate, National Chrysanthemum Society, October 28.

Exmouth Ricul.—This is another variety which the National Chrysanthemum Society's floral committee wished to see again. It was placed before them on October 28 last, and was represented by beautiful reflexed Japanese blooms of a very rich deep crimson colour. The florets are of good breadth and rather short and pointed. There is a doubt about this novelty being distributed in the spring.

Hon. Mrs. Tennant.—This is a beautiful example of an incurved Japanese bloom, somewhat resembling in form that of Mrs. W. Cursham. The florets are broad, curled and incurved, and possess plenty of substance. The colour inside is a pretty shade of rosy amaranth, with silvery white reverse, and should prove welcome on the show-board. Second crown buds answer better in this case, and the height is about 5 feet. Of easy culture. The National Chrysanthemum Society wished to see this variety again.

D. B. CRANE.

(To be continued.)

A DIPPING TANK IN A KITCHEN GARDEN.

THE middle of the kitchen garden, where the four main paths meet, offers a good opportunity for some treatment that shall be of simple utility as well as of considerable decorative value; moreover, as dipping for water is hot work it is pleasant to do it in the shade of Vines or of masses of cluster Roses. The example illustrated is in a new garden, where the main cross walk is already well filled with flowers, though the climbing plants that will one day shade the tank are not yet fully grown.

NOTES ON HARDY PLANTS

CYCLAMEN COUM.

ONE has many a look at the beginning of the year for the opening of the exquisite little round-leaved or Coum Cyclamen, whose bloom may be expected to be in perfection with us in January or early February in an average season, though frost may delay it still longer. This season a number of flowers could be seen in December, but covering close to the soil, and closely curled up so as to preserve the segments from pollution until the stalk was ready to uplift itself. In the second week in January a few have opened, but the greater number are still to come. The bright little crimson flowers are always so attractive and so cheerful in their

colouring at a time when there is often white hoar frost or a slight covering of snow upon the ground. We have no prettier flower in its season than this small Cyclamen, with its drooping, recurved blooms and its round leaves, though the latter are not so prettily marbled as some of the other hardy Cyclamens. There is a pretty variety with a light-coloured zone on the leaf, and, though some would not consider it a variety of *C. Coum*, it is difficult to think it anything else. There are also at least three other varieties, all of which I grow here—one with white flowers, a pretty little bloom; one with rose-coloured flowers; and one which, for convenience sake, is called lilac. It is hardly lilac, but those who have experienced the difficulty of colour names will find it a puzzle to improve upon this. The time at which these Cyclamens bloom points to the desirability of giving them a sheltered corner, hardy though they are, and the rockeries present about the best places, as they can there have a sheltered, shady place in light soil. They do well here with an east exposure, but protected from the winds from that quarter, which are such a bane to our gardens in spring. I have been trying the effect of mortar rubbish on these plants, and so far I think that these Cyclamens thrive well in it, though not absolutely preferring it. No one who has once established *C. Coum* will regret the little trouble and expense involved in so doing.—S. ARNOTT, *Carsethorn, by Dumfries, N.B.*

GALANTHUS ELWESII VAR. WHITTALLII.

ALTHOUGH a severe frost on the night of January 12, which, as I write, looks as if it would stand for



DIPPING TANK IN THE KITCHEN GARDEN AT ORCHARDS, SURREY (THE RESIDENCE OF MR. WILLIAM CHANCE)

some days, will retard the flowering of the greater number of my plants of this fine *Snowdrop*, a few are in bloom, so that it proves the earliest of the forms of *G. Elwesii* in my garden. This has been the case ever since it was sent over by Mr. Whittall, and one is glad to observe that it retains this early habit, which, with its broad leaves, tall stature, and large flowers serve to distinguish it from the other rather numerous forms of the pretty and valued *G. Elwesii* which have been longer known. Like most other *Snowdrops*, Mr. Whittall's variety prefers a rather moist soil to a light and dry one, and experimental plantings in different parts show how much its reputation in gardens will depend upon where it is planted. On dry rockeries it is comparatively small, while in moist, peaty nooks it is so much finer that one would hardly suppose it to be the same plant. It is, of course, as we might expect from a wild form, varied in its character, and some of the plants might well be discarded, so inferior are they to others. The best forms, if seed were saved, might be the parents of varieties of even greater size and beauty, although these do not always go together. The leaves also vary much: some are narrow, while others are broad and massive and of great length. Their size is, indeed, in some cases their misfortune, as I have had some of them twisted off at the level of the soil by severe gales when in an exposed position, to the weakening of the bulbs for the following year. The net result of my trials of soil, &c., with this *Snowdrop* is that it prefers a moist peat, and, failing that, it ought to have one inclining to clay rather than one which is light and exposed to drought in summer.—S. ARNOTT.

THE FRUIT GARDEN.

FRUIT ARCHES.

MANY and varied are the possible ways of growing fruit trees, although those actually put into practice are but few. The planter of fruit trees ordinarily fails to consider their possibilities other than from an utilitarian point of view, with the result that our fruit gardens usually contain a monotony of the bush, pyramid, and standard forms. One would not wish, of course, to disparage these, undoubtedly the most serviceable of all fruit trees, but there is no reason whatever why the fruit garden should not be varied as far as may be consistent with usefulness, and this can be attained largely by introducing other than the usual styles of training above named. In this age of advanced ideas one hears much of the uninteresting, monotonous, and even ugly appearance of the fruit and kitchen garden, these being as a rule both in one. And one also may read various schemes and recommendations that are from time to time put forth for its improvement. The accompanying illustration affords, I think, a suggestion not unworthy of being carried out. There are few features in a fruit garden more delightful than arches effectively and effectually covered with fruit trees, and there surely must be one if not more walks that would easily lend themselves to this in every garden.

Such a structure is at all times of the year of interest. Those to whom leafless branches and the study of the problem of fruit buds and wood buds are not altogether matters of



THE FRUIT WALK AT MILTON COURT, DORKING.

indifference will find the fruit arches a source of pleasure during the winter months, for they are easily arrived at and without the inconvenience of tramping over damp or muddy ground. Those who cannot appreciate the beauty of the fruit garden when the trees are in full blossom during April and May must indeed be hard to please. It is no exaggeration to say that the best of our hardy ornamental trees and shrubs can neither equal them in profusion of flowering nor surpass them in beauty of blossom. Even in the autumn the leaves of some varieties are so beautifully tinted as to vie with trees and shrubs remarkable for the lovely colouring of their foliage.

To those interested in the beautifying of what undoubtedly is usually a dull and uninviting spot I would offer a suggestion. Having erected an arch, cover it with Pear trees noted for their autumn-tinted foliage. This is not such an extravagant idea as it may perhaps at first seem to be, for it will be found generally speaking that it is the best and most delicious varieties whose foliage takes on the most beautiful tints. I have mentioned Pears because they are well adapted for training in this manner. Cherries however, do equally well, and Plums probably would also. This I would not care to positively assert however. One can greatly assist in improving the appearance of the fruit garden other than by making fruit arches, although these can be erected in a variety of ways, of which that shown in the illustration is perhaps the most convenient and effective. Variations will suggest themselves in individual cases. In some notable French gardens the art of training fruit trees has been carried to excess. Instead of being, as they should, objects of beauty, they are trained and twisted into such grotesque shapes as to make one feel quite sorry for them. One would think their fruit bearing capacities could neither be improved by so much cutting and unnatural treatment. In covering arches the trees are of course grown in quite as natural a manner as upon

walls. The forms most profitably used are either cordon or fan-shaped trees. If it is wished to cover the trellis quickly then the former should be planted, but a more permanent effect would be obtained by planting good fan-trained specimens; the arches would not, however, be covered so quickly. The accompanying illustration is from a photograph taken in the garden at Milton Court, Dorking, the residence of Mr. Lachlan Mackintosh Rate.

A. P. H.

CORRESPONDENCE.

(The Editors are not responsible for the opinions expressed by their correspondents.)

TROPÆOLUM SPECIOSUM.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—I was glad to find Mr. Crook (on page 231, vol. lx.) calling attention to this charming hardy twining plant, and in response to his request will give my experience of it. It grows freely in Scotland, and in some parts of England we find it growing most luxuriantly. Some twining plants will do almost anywhere and flourish under almost any circumstances, but this cannot be said of *T. speciosum*. Given a suitable soil and congenial quarters, a little care and forethought in planting, then success may be assured. I have tried it in warm sunny aspects, and also in damp quarters, but my efforts to induce it to grow were an utter failure. Seeing it doing well against a north wall, I was tempted to try it in this position, with the following results. First of all I procured several pots of nice healthy roots, and then made a narrow border against a north wall at the back of a Peach house. The natural soil was light and very sandy; with this I mixed some good loam, peat, and leaf-mould. Early in April I put out my plants, kept them free from weeds, and gave water when required. The plants soon started into growth. I then placed some ordinary Pea sticks against the wall for them to climb. This they did with great rapidity, and in the autumn I was rewarded with a good display of colour, draping

what would otherwise have been an unsightly spot. The year following I had occasion to plant a large Holly and a common Yew tree in close proximity to the border which contained the *Tropeolum*, and no sooner had it began to grow than it made its way towards the newly planted trees, began to climb about the branches, and by the autumn partly covered them. I mulched the trees to induce quick growth, and I also manured the border. The next year the result was marvellous, the colour hiding the boughs of the Holly and Yew. The colour picture will not soon be forgotten. Well might Mr. Crook say that he often used the long strings of shoots for the decoration of the dinner table, &c., and I know of nothing more beautiful for this purpose. When once this plant is well established leave well alone. It dislikes removal, and if only given a little help in the way of surface dressing it will "go on for ever." In planting be careful not to plant when the soil is cold. I find the best time for planting is either early autumn or in the spring, when the soil is warm and genial. Do not put out small bits of roots and expect grand results the same year. Rather procure pots full of healthy roots and plant as directed, and I am sure success will result.

Ashwellthorpe Hall, Norwich. T. B. FIELD.

AGAPANTHUSES IN THE OPEN.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—Referring to Mr. J. Hudson's query about the hardness of *Agapanthus mooreanus*, I may say that I know it is perfectly hardy in a good many Scottish gardens besides my own, and that I have not been able to hear of its being tender in any garden in which it has been tried. Even in low-lying, mossy neighbourhoods in Scotland, where late frosts are often troublesome, it is hardy. Of course, those who do not know it ought to bear in mind that it has not the bold appearance of the typical *umbellatus* (I believe it is considered only a variety), but it is withal a pretty and desirable plant, which should be more widely grown, especially as it is cheap, and can therefore be planted in some quantity.

I was much interested last autumn in the large bunches of flowers of *A. umbellatus* and *A. u. albus* shown by Messrs. Cocker, of Aberdeen, at the Edinburgh show, and even more interested to learn from the exhibitors that the plants had been grown in the open in their Aberdeen nursery. It seems that this firm is now raising these *Agapanthus* largely from seed, and it is to be hoped that some varieties hardy generally may be obtained in this way. My own experiments in establishing the fine *A. u. maximus* in the open have so far been unsuccessful, but I have not given up hope yet, and the success of the Messrs. Cocker will encourage me to try again. I fear, however, that it is largely owing to the dryer climate of the north-east of Scotland that this success is due. I believe that this operates with other things as well, for I was much struck when I visited this Aberdeen nursery a few years ago to see several *Alstroemerias* doing well in the open with which we should fail in the south-west.

S. ARNOTT.

Pea Parrot's Prolific Marrow.

—This is one of the most valuable Peas of recent introduction, and when better known will doubtless be generally grown. It is a wrinkled Marrow of the Veitch's Perfection type, but of somewhat shorter growth. It is wonderfully prolific, the rich green pods being filled with large Peas of delicious flavour. At Gunton two years ago Mr. Allan sowed it and Veitch's Perfection on March 21, and to his astonishment Parrot's Prolific Marrow was ready for use three weeks before Veitch's Perfection, and quite equal to it in quality. It will doubtless prove an excellent Pea for amateurs.—J.

BRITISH HOMES AND GARDENS.

WOOTTON COURT.

WOOTTON COURT is about midway between Warwick and Kenilworth, both of which towns are world famed on account of their historical interest. The mansion is a substantially built and climber-clad structure of extreme beauty, and stands in grounds of about 70 acres. The owner, F. Beresford Wright, Esq., J.P., is a keen horticulturist, and evidence of the lavish care he bestows on his garden and grounds abounds on every hand. No part of Warwickshire is better timbered than this neighbourhood, and one would have to travel some miles before they saw a finer collection of coniferae than are to be seen at Wootton Court. The majority of the specimens are of large dimensions, many attaining a height of from 40 feet to 70 feet.

On entering the grounds from the main road by the bridge, one is at once struck with the grandeur and rude health of the coniferae, and it is evident that the soil, a stiffish clay, suits the trees admirably. I believe the main portion were planted by a former owner, and, unfortunately, many that should have been transplanted to allow of proper development in years gone by have now become somewhat crowded, although the present owner has transplanted a great many into more open positions, and added several choice young specimens of newer introduction to the collection. The most perfect coniferous trees noted were: *Abies Douglasii*, *A. cephalonica*, *A. Englemanni*, *A. nobilis*, *A. n. glauca*, *A. magnifica*, *A. nordmanniana*, *A. Pinsapo*, *A. lasiocarpa*, *A. grandis*, *Cupressus lawsoniana*, *Pinus Cembra*, *P. macrocarpa*, *P. ponderosa*, *P. Laricio*, *P. Strobus*, *Thuopsis borealis*, *T. dolabrata*, *Wellingtonia gigantea*, *Retinospora* in variety,

and *Araucaria imbricata*. There is a very beautiful vista about 220 yards in length of healthy and large coniferae, extending from the main road to the mansion. The mansion is completely covered with Honeysuckles, Magnolias, Jasmines, *Ampelopsis*, Banksian and other climbing Roses, and at the time of my visit (July) was presenting a beautiful picture.

Disposed judiciously in beds in the Pinetum or wilderness garden are many very choice hardy trees and ornamental plants. I was particularly struck with the fine masses of *Spirea arifolia* towering above their smaller growing neighbours. Then there were clumps of *Silphium trifoliatum* and *Cimicifuga racemosa* (Black Snake-root), both of which are seen to excellent advantage in such a garden. The Spanish Gorse is also freely planted, as are the choicer Brooms, Azaleas, Kalmias, Rhododendrons, and other American plants are tastefully arranged, and appear to thrive remarkably well.

Immense trees of *Philadelphus grandiflorus* were flowering profusely; indeed, so full were they with their large pure white flowers that little foliage could be seen. At the upper part of this garden near the mansion a rock garden has been made of tufa, and as it was completed two years ago the plants are now well established and effective. No expense has been spared in the construction of this rock garden or in furnishing it with choice subjects. The enjoyment that the owner obtains from his rock garden will increase as time goes on. From a niche in the rocks the clear water trickles into well-constructed shallow tanks, which form a streamlet of good length, with the velvety turf gently sloping to the waterside. Many of our most beautiful and interesting aquatic plants find a home here, and considering the short time they have been planted they have done remarkably well. The *Nymphaeas* are well represented, and at the time of my visit were growing and flowering freely.

Near the margin and on the banks of the



IN THE GARDEN AT WOOTTON COURT, WARWICKSHIRE.

streamlet some healthy plants of the Royal Fern (*Osmunda regalis*) were noted. The Lady's Slipper Orchid (*Cypripedium acaule*) has been planted near the water in a partially shaded position, and looks as if it will thrive. Solomon's Seal appears quite at home here, also masses of *Bambusa Metake* and *B. Simoni*.

Wootton Court gardens contain many hardy climbing plants, and one rarely sees them grown in such a natural manner. In too many instances the best of our hardy climbing plants are trained too stiffly, and their real beauty is lost. Near the rockery stands an old arbour of Yew, and rambling at will over this is the common Honeysuckle of our hedges; this was a picture in itself, but there are others. A covered Rose walk extends from this natural arbour to the parterre immediately in front of the mansion, and this was resplendent with wreaths of blossoms of such beautiful climbing Roses as Paul's Carmine Pillar, Turner's Crimson Rambler, Reve d'Or, the Banksian, and the Ayrshire. A few of the hardy Vines have been recently planted on these bowers, and without doubt will enhance the beauty of the Roses with their richly-tinted leafage in autumn. A low wall near the carriage drive is clothed with Vines, which in autumn make a beautiful garden picture, for they have been planted a number of years, and have been allowed to trail at will. Near by is a Yew hedge, with *Wistaria chinensis* rambling freely over it, and by its appearance had flowered profusely earlier in the summer.

I was particularly struck with the number of these pictures at Wootton Court and the entire absence of the formal style of gardening, and this speaks well for Mr. F. Beresford Wright's taste in what constitutes a beautiful garden. The lake is situated well away from the mansion, and is 2½ acres in extent. Quite recently the side banks have been piled with Larch posts to prevent the wash of water making inroads on the banks. At intervals along the margin are planted clumps of moisture-loving plants — *Gunnera scabra*, *Spiraea palmata*, Bamboos, Iris, &c. The herbaceous border, 120 yards in length, extends from the mansion to the lake, and here may be seen some of the newest as well as many old-fashioned herbaceous plants. At the back of this border is the wall bounding one side of the kitchen garden, and this is clad with beautiful flowering and foliage climbing plants adapted for such a position.

The glass houses are not numerous, but well constructed on modern principles, and are sufficient for the needs of the establishment. The conservatory is kept bright and effective at all seasons, and at the time of my visit was looking extremely well. Gloxinias were good, as were Cannas and Begonias. The plants showed the skill of Mr. Hackvale (the gardener) as a plant grower. In the stove house were many well grown and brightly-coloured Crotons. The garden is thoroughly English in that all departments are well represented.

H. T. MARTIN.

GARDENING OF THE WEEK.

INDOOR GARDEN.

HIPPEASTRUMS.

BULBS that are starting should be introduced into a temperature of 60°. At this stage weak manure water may be given them. Some growers repot their bulbs, before flowering, but I have achieved the best results from those repotted after flowering is over, and without the aid of bottom heat. In repotting shake out some

of the old soil, well filling in the new amongst the roots, and make it firm. A compost of good fibrous loam, with about one quarter leaf-mould, some crushed bones, charcoal, and sharp sand added, suits them. The pots should be well drained, for the plants require plenty of nourishment in the growing season. Those bulbs not requiring to be potted should have a liberal top-dressing.

ANTHURIUMS

that require potting may be taken in hand forthwith, using a compost of fibrous peat and loam broken up into small lumps, allowing the finer particles to pass through a sieve. Add sphagnum moss, broken crocks, charcoal, and sharp sand. In potting spread out the roots and keep the plants well up. When finished they should be several inches above the rim of the pot, and have efficient drainage, freely syringing and watering.

STEPHANOTIS FLORIBUNDA,

if not potted, should be top-dressed with fibrous loam, leaf-mould, well decomposed manure, and sand, all well mixed. Cut away any weakly growths, and see that the foliage is thoroughly cleaned before growth commences. *Sonerilas*, *Fittionias*, and *Eschynanthus* are useful plants for an edging in the stove; they should be grown in a mixture of fibrous peat, sphagnum moss, charcoal, and sand; give good drainage. To increase them, place cuttings in small pots in the propagating frame. Cuttings of *Abutilons*, *Acalyphas*, *Coleus*, and *Salvia splendens* may be inserted in the same frame. *Marguerites* struck in the autumn should be placed into their flowering pots: they will be in bloom during May. A mixture of loam, leaf-mould, and sand will suit them: pot firmly, pinching several times after growth has commenced. When flower buds show give the plants plenty of manure water.

ACHIMENES.

A batch of these should be started in heat. Shake each variety out of the old soil, and insert separately in a light sandy compost, watering sparingly until growth commences. When they have made shoots an inch or two long the tubercles may be transplanted into the pots or baskets in which they are intended to flower, using a compost of fibrous peat and leaf-mould in equal parts, with a little dry cow or sheep manure, and sufficient sand to make the whole porous. *Achimenes* should not be repotted, but may be given occasional doses of liquid manure.

CANNAS.

A batch of these may be started. Divide the root; each portion should have a bud and root attached. They require a very rich and rather heavy soil, but porous.

JOHN FLEMING.

Wexham Park Gardens, Slough.

KITCHEN GARDEN.

RHUBARB.

OWING to the scarcity of the Apple crop in many parts, and the unsatisfactory way in which this fruit has been keeping, there is sure to be an extra demand for forced Rhubarb this season, consequently provision should be made accordingly. Many of the varieties do not force well early, but from now no difficulty should be found in keeping up the supply. For some few weeks yet the roots should be lifted and brought forward in the Mushroom house or some such structure, keeping it at about the same temperature as the latter. The best results are obtained from those roots brought forward in the open ground, and which if not forced too hard and the protecting material removed in good time will be little the worse by the autumn, but it is well as far as possible not to force the same roots two years in succession. The old *Victoria* is hard to beat for general purposes, but *Daw's Champion* and the *Sutton* are both excellent varieties, and deserve to be included in all collections.

Plantations in the open can now be made; the ground should be thoroughly drenched and manured, allowing a distance of from 3 feet to 5 feet according to the variety to be grown. Mulch the ground and leave the growth undisturbed for the first season.

CAULIFLOWERS.

There are now many varieties well adapted for forcing, and few things are more highly appreciated during the whole of May than small snow-white heads of these. Veitch's Early Forcing and Carter's First Crop have never yet failed us. Those which were sown last autumn should now be potted up into 3-inch pots and grown on in a temperature of from 50° to 55° as near the glass as possible. At no time must these be allowed to suffer for want of water at the root or premature turning in will in all probability be the result. As soon as the pots are well filled with roots pot on into 8-inch pots, using good coarse fibrous loam three parts and well-rotted cow manure one part: keep in a growing temperature until the plants have made a good growth, after which they may be moved to cooler structures, such as late orchard houses or cold frames. They should be liberally fed with farmyard manure water and mulched thoroughly with half-decayed manure, when in April they may be safely plunged under a south wall to finish perfecting their heads.

PEAS IN POTS.

It is now by no means an uncommon practice to procure the first few pickings of Peas from those which have been grown in pots or boxes. Several varieties now lend themselves easily to this mode of treatment. The great thing is not to force or coddle the plants in any way, but encourage them to make a stout, sturdy growth in all their stages. Those sown during December should now be making good headway, and unless already done will require thinning, surface dressing, and supporting with short brushy sticks.

CELERY.

This first sowing of this should now be made. Use well-drained pots or pans and a mixture of light porous soil, always bearing in mind that Celery must not be neglected in the early stages of growth, and if once allowed to become thoroughly dry probably much of the crop will run to seed.

Capsicums and Chilies should be sown for early supplies.

E. BECKETT.

Alldenham House Gardens, Elstree, Herts.

THE FRUIT GARDEN.

POT VINES.

WHEN the fruit upon these is formed, a sufficient number of bunches for the crop should be selected and the surplus ones removed, bearing in mind in doing so that excessive cropping courts failure. The berries should likewise be thinned early. With the fruit freely swelling and active root action liberal supplies of tepid water will be necessary, every alternate application being of diluted liquid manure. Where the pots are placed upon a bed of rich soil into which the roots have penetrated great benefit will accrue. A buoyant atmosphere should now be maintained accompanied by a night temperature of 65° and 75° by day by artificial means.

EARLY PERMANENT VINES.

These having their roots confined to inside borders are advantageously placed compared to those that are rooting outside, but they demand painstaking management with respect to watering, and the supply must be discreetly increased, both with regard to quantity and its nourishing elements, as growth advances. Lateral growths should be thinned early, leaving enough to cover the trellis without crowding it with foliage, and stopping them at two or more leaves beyond the best bunch of fruit, while sublaterals should be stopped at one leaf and all superfluous bunches removed. During the flowering period a tolerably dry atmosphere and a fair amount of fresh air should be afforded with a view to assist fertilisation, and this may be furthered by gently shaking the rods at about midday, when the pollen is dry, or in the case of bad setting varieties a rabbit's tail may be used. There should be no delay in thinning the berries; do this soon after they commence to swell. Other essential duties now are the careful management of the fires, moisture, and ventilation, so that

extreme atmospheric conditions are avoided. Close the houses early on bright days to obtain the full benefit of solar warmth.

PLUMS IN POTS.

The most satisfactory way of advancing the season of the Plum is to cultivate trees in pots, and afford them the benefit of a light and adequately ventilated glass structure. Trees that are thoroughly established in pots, and have been properly rested by their pots having been plunged in a bed of ashes outdoors, should, after being sprayed in the ordinary way with a solution of caustic soda and potash, be placed under glass. This fruit, like the Peach and Cherry, will not during its early stages of development withstand high temperatures, and a steady warmth of from 45° to 50° should not be exceeded by artificial means. A gently moving air must be continually kept up in favourable weather and the trees syringed early in the afternoon of bright days, except while they are in blossom, when fertilisation should be aided by increasing the ventilation and gently tapping the branches. Until root growth has become active great care should be taken not to over water, but when the fruit is swelling more water and the assistance of clear liquid manure will be necessary. The house should be thoroughly fumigated immediately before the blossoms expand.

THOMAS COOMBER.

THE FLOWER GARDEN.

Now is the time for making the final arrangements as to the way in which it is intended to fill the beds and borders for the coming season, so that one may know exactly what plants and the quantity it is necessary to propagate. Although the formal bedding-out system has given way largely to a natural and consequently more beautiful way of using hardy perennials and hardy and half-hardy annuals in our beds and borders, yet in certain positions "formal bedding" is thoroughly in keeping with the surroundings.

In any plan of bedding-out much forethought and study are essential, for if anything different to last year's display is desired, having made one's plans, preparations should at once be made to carry them out. The required quantities of the different kinds of plants to be employed must be ascertained, and if there are any deficiencies in the quantity of any particular sorts that can be increased by cuttings they should be made good at once.

Spring-struck Geraniums are quite as satisfactory bedders as those from autumn cuttings, provided they are rooted early and grown on well. Unlike autumn ones they should be inserted singly into small 2½-inch pots, in a compost of light sandy soil pressed firmly, when if placed in a mild stove temperature they emit roots in a comparatively short time. Iresine, Alternanthera, Heliotrope, Fuchsia, Tropaeolum, Ageratum, Verbena, etc., can all be increased now by cuttings, but in the case of the last mentioned propagate by seedlings, unless it is desired to preserve a particularly fine variety. Verbenas are so easily raised from seed and can be had so true to colour that old plants are not worth keeping as stock plants during the winter. Now is a good time to sow in boxes and place in gentle heat.

If a stock of the hardy Verbena venosa is desired it can easily be raised from seed, which should be sown immediately to ensure good-sized plants for planting out this year. The Lobelia is another

plant which is far better treated as an annual in preference to holding a stock through the winter, so often an inconvenience to many. With very few exceptions the seedlings come perfectly true, and if a small surplus is kept in boxes those not up to the required standard can be made good when they flower. Sowings can be made now and even later to obtain sturdy plants for bedding-out in May. I use boxes of light soil in which to sow them and start them in a gentle heat of about 60°. When large enough they are pricked out into other boxes again, giving them plenty of room to develop into sturdy plants, and as soon as circumstances permit harden them off by placing in cool frames. The Petunia is another example of a plant that there is no necessity to keep through the winter, as seedlings come so true and are so easily raised. Two or three weeks time hence is early enough to sow the bedding-out Petunia, as it grows fairly fast and flowers quickly.

There are several handsome foliage plants of great value and suitable for certain positions. To get them of effective size for the coming summer sow the seed as soon as possible. The Wigandia is a plant of this character, and if put out in good soil grows very rapidly. Acacia lophantha is another, and so is Chamæpeuce diacantha: the latter, however, will not assume its best form until next year. Cannabis sativa is also well worth trouble to bring it to early perfection.

HUGH A. PETTIGREW

The Gardens, St. Fagan's Castle.

CÆSALPINIA JAPONICA.

THIS is a very interesting shrub, from the fact of its being one of the very few hardy members of the sub-order Cæsalpinie (a division of the Leguminosæ), the others being the Gleditschias, Gymnocladus, and Cercis. The Cæsalpinia is, however, very distinct from either of them, as it forms a loose, rambling shrub, whose long

flexible shoots are plentifully furnished with hooked prickles of a red colour, which are very conspicuous against the light green bark. The leaves are bi-pinnate, and, in the case of vigorous examples, a foot long, while their light, yet bright green tint, is very pleasing. The flowers, which are rather thinly disposed in partially erect racemes, are about an inch across, of a bright canary-yellow colour, against which the clusters of reddish anthers in the centre stand out conspicuously. In planting this Cæsalpinia its vigorous rambling character should be borne in mind, for when small the neat Acacia-like foliage is so pretty that anyone unacquainted with its behaviour in a mature state might well be pardoned planting it in association with more delicate subjects, which it would soon smother. This Cæsalpinia is a native of Japan, from where it was introduced by Messrs. Veitch.

OBITUARY.

MR. A. W. BENNETT.

MR. ALFRED WILLIAM BENNETT, M.A., B.Sc., an able and well-known botanist, died on the 23rd ult. He was born at Clapham in 1833, and was educated at University College, London. The first of his more important contributions to scientific literature was editing, with Mr. Thiselton Dyer, the English edition of Sachs's "Textbook of Botany," 1875; in 1899 he published, in conjunction with Mr. G. Murray, a valuable "Handbook of Cryptogamic Botany"; but his most popular work was the "Flora of the Alps," which appeared about seven years ago. He was a Fellow and ex-vice-president of the Linnean Society, and a Fellow and former vice-president of the Royal



CÆSALPINIA JAPONICA IN THE GARDEN OF CAPTAIN DAUBUZ, RYDE, ISLE OF WIGHT.

Microscopical Society, the Journal of which society was edited by him. Mr. Bennett was a frequent contributor to the journals and proceedings of several scientific societies, and was a popular lecturer on botanical subjects, as well as an examiner in botany to the University of Wales.—*Times*.

MR. DAVID SYME.

WE regret to hear of the death of Mr. David Syme, the managing director of Messrs. Peter Lawson and Son, Limited, seedsmen, 1A, George IV. Bridge, Edinburgh, which took place at New York, Lincolnshire, suddenly on Saturday last.

SOCIETIES.

GARDENERS' ROYAL BENEVOLENT INSTITUTION. SPECIAL MEETING.

A SPECIAL general meeting of this institution was held at Simpson's, on Thursday, the 23rd ult., at 1 p.m., for the purpose of considering important alterations of rules. Mr. Harry J. Veitch was in the chair, and there was a good attendance. The secretary read the notice convening the meeting.

Mr. Veitch then offered a few words in explanation of the object of altering the rules. He said that the number of those qualifying under Rule III., sub-section 5, was increasing. Life members from the auxiliaries would in a few years also have to be considered. At the present rate of increase, if the rule was to remain, in a few years there would be no election at all, because even more than a sufficient number of candidates would have qualified for the annual vacancies. This matter had been discussed by the committee and a sub-committee for a very long time; it was in no sense a hurried matter. The fact of there being no election would be very unfair to those who had subscribed under fifteen years.

Mr. Arthur Sutton then moved the following rule, in substitution for sub-sections 5 and 10 of Rule III.: "For each guinea subscribed for each year 100 votes, and in like manner the votes to be increased for each additional guinea per year subscribed. All candidates who are or may become life members by payment of ten guineas, and who are eligible under the same rule and sub-section, or the widows of such, shall be entitled to receive 100 votes for each year of life membership, but such 100 votes per year shall not continue to be given for more than 10 years, being 1,000 votes for the ten guineas, and by payment of twenty guineas be entitled to 200 votes per year not exceeding 10 years, being 2,000 votes for the twenty guineas, and so on in proportion, but subject nevertheless to such other rules as apply to the election of pensioners."

Mr. Sutton, in the course of his remarks, said that undoubtedly many gardeners around Reading had joined the Reading auxiliary on the understanding that, subject to their qualifying in other respects, they would almost be entitled to a pension. He had at first opposed the idea of altering the rule, but after much discussion in committee it had been decided to bring it before the meeting that day. He proposed the motion with reluctance, although he now believed it essential to the welfare of the society. Allowing for each guinea subscribed for each year 100 votes would materially help a candidate were he to offer himself for election.

Mr. George Monro seconded this resolution. He said the matter now under consideration had been in the minds of some of the committee for ten or twelve years. Some gardeners thought this institution a benefit society. Such is not the case; most of the income is received from friends who derive no benefit from the funds, and persons who have not subscribed do.

Mr. Owen Thomas said he was one of those who fought against the alteration of the rule, and still thought it a good thing that the committee should have the power of placing a deserving case on the funds, although it was almost impossible to select from so many. He now hoped the alteration of rules would be adopted. Mr. White (of Worcester) thought it hard on those who had subscribed under the rule as it was.

Mr. Robert Piper remarked that if a man subscribed a guinea a year for fourteen years he would have 1,400 votes to his credit, and this would doubtless secure his election with other help he might have. The institution had outgrown such a rule. Persons having qualified under that rule would be so numerous that they would be placed on the funds automatically. Subscribers should have votes in proportion to their subscription, but their votes would soon be of no value if the rule were not altered, and they would lose interest in the institution. Mr. Wythes hoped the new rule would be passed. Mr. Arthur Sutton mentioned that no expression of adverse feelings had been received by the secretary. The Reading auxiliary now approved of the new rule. After some further discussion Mr. Sutton's resolution was carried, two only voting contrary.

The following alterations of rules and the undermentioned new rule were afterwards adopted: Rule III., sub-section 3.—After "total incapacity" in second line, insert the words "through accident or incurable disease." After "incapacity" in fifth line, insert the words "from work at any age." After the word "certificate" in sixth line, insert the words "such certificate to be given when required by the committee of the institution by a medical officer to be appointed by them." Rule III., sub-section 11.—Substitute the words "List of Candidates" for "Pension List" in the sixth line.

Rule IV., sub-section 2.—Strike out the words "one vote for each vacancy" in third, fourth, and seventh lines, and insert the words "five votes." Rule IV., sub-section 3.—Strike out the words "one vote for each pensioner to be elected" in fourth and fifth lines, and insert the words "five votes at all elections of pensioners." Rule XIII., sub-section 1.—Strike out the words "All life subscriptions received from those members who may become eligible as pensioners under Rule III., sub-section 2 and." New Rule.—Rule III., sub-section 10.—"After each election, the committee may, if they think fit, award pensions to not more than two of the remaining unsuccessful candidates."

Votes of thanks to the chairman and Mr. Peacock, honorary solicitor to the institution, closed the meeting.

ANNUAL GENERAL MEETING.

Mr. H. J. Veitch presided at this meeting, held at three o'clock, and there were present Messrs. J. Hudson, George Paul, Cuthbert, Peter Veitch, J. H. Veitch, G. Norman, R. Dean, W. Icton, White, George Monro, G. Wythes, J. Rochford, J. Fraser, Watkins, Denning, and others. The secretary read the minutes of the last general meeting, and afterwards the report and balance sheet for the past year.

Mr. H. J. Veitch, in moving the adoption of the report, mentioned that the King and Queen had graciously consented to become patrons and the Prince of Wales president of the institution. There were now 190 pensioners on the books. The formation of another auxiliary had been considered. The Victorian Era Fund and the Good Samaritan Fund were doing much good; £1 5s. is given from the first-named fund to the unsuccessful candidates for each year they have subscribed whilst waiting for the pension. Mr. George Monro seconded, mentioning that the income of the Good Samaritan Fund goes to non-subscribers. The resolution to adopt the report and balance-sheet was unanimous.

Mr. George Monro proposed the re-election of Mr. H. J. Veitch as treasurer, and also a vote of thanks for his services. All who knew the Gardeners' Benevolent Institution during the past thirty years would testify to the valuable aid given them by Mr. Veitch. Mr. Osborne seconded this proposition, which was unanimously carried.

Mr. G. Wythes proposed that Mr. G. J. Ingram be re-elected secretary. They could not have one who worked harder for the good of the institution. Mr. Watkins seconded, and the motion was passed unanimously.

Mr. George Paul proposed that Mr. P. R. Barr be elected on the committee in place of Mr. Ranger Johnson who retires, and that Messrs. W. Denning, J. Douglas, George Monro, J. H. Veitch, G. Wythes, W. Atkinson, P. Blair, and N. F. Barnes be re-elected. Mr. Cuthbert seconded, and the proposition was carried. Mr. White moved that Messrs. Manning, Swift, and Willard be re-elected auditors. Passed without dissent. Mr. J. Hudson proposed and Mr. Monro seconded that the arbitrators be again appointed. Carried.

It was also resolved that the following twelve candidates be placed on the funds of the institution without election:—Bernard, John, Cheltenham, aged 64; Briggs, Alfred G., Reigate, aged 65; Collins, John, Bristol, aged 59; Dean, Emily E., Oxted, aged 61; Derriant, John, Penrith, aged 66; Gray, Mary A., Dorking, aged 65; Harris, William, Bromley, aged 79; Long, William, Bristol, aged 67; Morris, Samuel, Barley, aged 67; Mundell, John C., Ryde, aged 67; Sandford, Charles, Luton, aged 70; and Taylor, Matilda, Worcester, aged 70.

Messrs. E. C. Mott and B. Monro were appointed scrutineers of the ballot.

RESULT OF THE POLL FOR EIGHT VACANCIES.

Atkins, Edwin, 4,735; Wilder, John, 4,486; Hunt, Richard, 3,917; Hicks, Samuel, 3,677; Herrington, William, 3,202; Marlow, George, 2,922; Wighton, Eliza, 2,872; Baxter, Elizabeth, 2,744; Cullum, Mary A., 917; Davies, John, 796; Dite, Thomas, 1,797; Fraser, John, 370; Gould, William, 1,099; Ismay, Samuel, 1,923; Kirby, Thomas, 798; Lovell, Samuel, 1,141; Pollard, William, 545; Porter, Bird, 2,431; Prentice, Sarah, 1,231; Webber, Richard, 1,589; Bates, John, 1,526; Bracebridge, Stephen, 2,012; Bradberry, John, 205; Criddle, Thomas, 1,517; Darvel, William, 1,332; Donnan, Mary A., 817; Draper, Edward, 108; Gower, Elizabeth, 2,085; Mills, Mark, 133; Price, John, 372; Rabbits, Henry, 1,550; Smith, John, 582; Woods, Joseph, 204. Thirty-three papers (336 votes) were unsigned and therefore wasted.

Mr. Melady proposed and Mr. Icton seconded that votes of thanks be given to the chairman and scrutineers.

FRIENDLY SUPPER.

This was held at 6 p.m. at Simpson's. Alderman Robert Piper presided, and was supported by a large and representative body of horticulturists and others, amongst whom were Messrs. H. J. Veitch, C. E. Osman, Harry Turner, Peter Veitch, Arnold Moss, Peacock, J. H. Veitch, J. G. Veitch, Morgan Veitch, George Paul, W. Icton, George Monro, J. Rochford, Peter Kay, H. J. Cuthbert, W. Cuthbert, Walker, E. T. Cook, S. T. Wright, H. B. May, G. Norman, Laing, G. Wythes, W. Taylor, J. F. McLeod, G. J. Ingram (secretary), and many others. After the loyal toasts were honoured the chairman gave "The Imperial Forces," to which Lieutenant Morgan Veitch replied.

Alderman Piper, in proposing "Continued Success and Prosperity to our Institution," mentioned that this was the sixty-fourth year of the life of the Institution. It began in a modest way, but had made sure and gradual progress, until, as the treasurer said at the meeting, they had been able this year to place a larger number of pensioners on the funds than in any one year before. Economy in the management has been a great factor in this progress. I have seen from time to time the care, attention, and anxiety shown by the committee in endeavouring to support the most deserving of the cases submitted. One of the saddest things to contemplate is the case of a man who has worked hard to see nothing before him (through stress of circumstances) but the workhouse, and it is to help and make happy such persons that this institution exists. The letters received by the secretary show how much the recipients appreciate the benevolence extended to them. I would like to couple with this toast the name of Mr. H. J. Veitch, one

we have known for many years, and the more we know him the more we admire him. May he be in the future, as in the past, the mainstay of this institution.

Mr. Harry Veitch, in responding, said that he rose with mingled feelings of regret and thankfulness—deep regret at the absence of Mr. N. N. Sherwood through serious illness, and at the thought that Mr. Cathie (of Simpson's) was no longer with them. They were glad to welcome Mr. George Monro back again after his long illness. He was glad they had to-day passed the alterations in the rules, for he was quite sure they had done the best for the institution.

Mr. Arnold Moss proposed "Our Country Friends," and coupled with it the name of Mr. Peter Veitch. Mr. P. Veitch having replied, Mr. Monro gave the toast of "The Chairman."

"The Committee and Honorary Officers" was proposed by Mr. George Paul, to which toast Messrs. Peacock and Wythes replied. A hearty vote of thanks to Mr. G. J. Ingram (the secretary) terminated a most enjoyable evening.

ANNUAL REPORT.

The committee have much pleasure in submitting their annual report and statement of accounts, as audited, for the year 1901, and in doing so desire to congratulate the subscribers and friends of the institution on its continued prosperity and the success which has attended its efforts on behalf of the aged, disabled, and distressed people who have been obliged through misfortune and necessity, occasioned by no fault of their own, to seek its benefits, and the aid thus afforded, it is encouraging to know, is most gratefully appreciated by the recipients in their days of need.

At the beginning of the year 181 persons—98 men and 83 widows—were receiving life annuities of £20 and £16 respectively. Of this number, during the year thirteen had passed away—ten men and three widows—whilst two widows have been removed from the list, one having been sent to an asylum owing to her mental condition, and the other to an infirmary on account of advanced age and illness, and consequent inability to pay for the medical attendance and nursing she now requires. Of the men deceased, four left widows, and their circumstances being of a deserving and necessitous nature the committee have been enabled under their rules to award them the widows' allowance of £16 a year. There were, therefore, at the close of the year 170 recipients of permanent relief; and the committee, notwithstanding that they have eleven vacancies only, recommend an addition of twenty pensioners to be elected, making a total of 190 persons on the funds, being nine more than at the corresponding period of last year, and the largest number of beneficiaries receiving life annuities from the institution in any year since its foundation. Whilst the committee are keenly alive to the increased liability thus entailed, they have been influenced in their action by the generous financial support hitherto accorded to the institution, which they are encouraged to hope will be continued and increased in the future, so that there will be no necessity for the work to be in any way curtailed.

The committee are much gratified to be able to report that the anniversary festival dinner, which took place in May last under the presidency of the Right Hon. Lord Llangatock, was most successful, a substantial amount being realised in aid of the funds. For this pleasing result the committee are deeply thankful, and desire to place on record their great indebtedness to Lord Llangatock for his kindness in presiding, his able and warm advocacy of the institution's claims, and for his lordship's generous contribution to the funds. The committee take this opportunity of offering their sincere thanks to the stewards, collectors, donors of flowers, the horticultural Press, and to other helpers who contributed in any way to make the festival a success.

The committee have much pleasure also in drawing attention to the continued progress of the valuable auxiliaries, from which the following amounts have been received during the past year: Bristol and Bath (hon. sec., Mr. G. Harris), £80 17s.; Devon and Exeter (hon. sec., Mr. W. Mackay), £30; Reading and District (hon. sec., Mr. H. G. Cox), £70 7s.; Wolverhampton (hon. sec., Mr. Richard Lowe), £20; Worcester (hon. sec., Mr. Percy G. White), £85. The hon. secretaries are most cordially thanked for their valued services so ungrudgingly given to the cause, as are also other friends in various parts of the country who, either by arranging concerts, opening of gardens, holding flower stalls, or in other ways so generously furthered the interests of the institution.

The committee are glad to be able to state that the special funds have proved a source of incalculable benefit. From the "Victorian Era Fund" nearly £100 was distributed during the past year amongst the unsuccessful candidates at the last election who were formerly subscribers to the institution, whilst a sum of £48 has been given from the "Good Samaritan Fund" as a temporary help to several cases of a particularly distressing nature. This latter fund has been augmented in the past year, and the committee rejoice that the increased income from that source will enable them to respond favourably to more of the many pathetic appeals which so frequently come before them. They would, however, again point out that only the interest derived from this fund is available, and they therefore very earnestly commend its object to those friends who have it in their power to increase its usefulness.

The committee have to make the very gratifying announcement that His Royal Highness the Prince of Wales has graciously consented to succeed His Majesty the King (now patron) as president of the institution, for which mark of Royal favour and recognition they are deeply grateful, and they feel sure that every friend of the institution will unite with them in tendering His Royal Highness their most humble and respectful thanks.

The committee congratulate the members on the alterations in the rules which have been decided upon at the special meeting, feeling convinced that they will very largely conduce to the still greater success and well-being of the institution in the future.

The committee cannot conclude their report without referring with great regret to the many losses that have

occurred through death in the past year amongst the valued friends and supporters of the institution. These losses will be severely felt, and the committee therefore plead most earnestly for renewed effort to fill the places of those subscribers who have passed away, that the work may be not only maintained, but that further help may be forthcoming to such an extent as to warrant an enlargement of its beneficent action on behalf of a class who in their day have done so much to brighten the lives and minister to the necessities of others.

BALANCE SHEET, 1901.					
Dr.	£	s.	d.	£	s.
To balance	1,028	3	3		
„ amount on deposit	3,315	10	0		
„ annual subscriptions	1,533	16	4		
„ donations at and in consequence of festival dinner, including collecting cards ..	1,636	7	3		
„ return of income tax	42	19	3		
„ advertisements in annual list of subscribers	51	6	0		
„ dividends and interest	903	3	7		
Total	£8,511	5	8		
Cr.	£	s.	d.	£	s.
By pensions and gratuities ..	3,155	11	8		
„ expenses, annual meeting and election	10	5	9		
„ secretary's salary	275	0	0		
„ office assistance	29	12	3		
„ rent, cleaning, firing, light, &c. ..	88	17	11		
Total	393	10	2		
„ printing, including annual reports, appeals, voting papers, &c.	119	11	6		
„ stationery, &c.	20	14	3		
„ cheque books	6	1	4		
„ festival expenses, £191 4s. 7d.; less dinner charges, £119 14s. ..	71	10	7		
„ wreath, address, &c., Her late Majesty Queen Victoria ..	6	19	6		
„ postages, including reports, voting papers, appeals, &c. ..	53	0	0		
„ travelling expenses	5	13	9		
„ carriage, telegrams, repairs, and incidental expenses	7	16	7		
„ bank charges	2	6			
Total	291	10	0		
„ amount transferred to "Good Samaritan Fund"	1,000	0	0		
„ amount placed on deposit	2,715	10	0		
Total	3,715	10	0		
„ balance with treasurer	940	13	1		
„ „ „ secretary	4	5	0		
Total	944	18	1		
Total	£8,511	5	8		

VICTORIAN ERA FUND.					
BALANCE SHEET, 1901.					
Dr.	£	s.	d.	£	s.
To balance	72	16	7		
„ dividends	124	14	0		
„ return of income tax	6	0	7		
Total	£203	11	2		
Cr.	£	s.	d.	£	s.
By gratuities	91	5	0		
„ balance, December 31, 1901 ..	112	6	2		
Total	£203	11	2		

GOOD SAMARITAN FUND.					
BALANCE SHEET, 1901.					
Dr.	£	s.	d.	£	s.
To balance	561	15	1		
„ donations, 1901	222	3	0		
„ dividends	38	10	0		
„ return of income tax	18	1			
Total	261	11	1		
„ amount from deposit account of general fund	1,000	0	0		
Total	£1,823	6	2		
Cr.	£	s.	d.	£	s.
By gratuities	48	0	0		
„ purchase of £536 19s. 9d. 2 ¹ / ₂ Consols	520	0	0		
„ purchase of £610 Great Western Railway 5 Debentures ..	1,001	8	0		
Total	1,521	8	0		
„ balance in hand, December 31, 1901	253	18	2		
Total	£1,823	6	2		

Having audited the accounts, we certify the same correct and the books in good order. We also certify that the securities of the invested funds are in the hands of the bankers, by whom the dividends are received on behalf of the institution.—THOMAS MANNING, THOMAS SWIFT, JESSIE WILLARD.

ROYAL HORTICULTURAL SOCIETY.

HAD it not been for the Primulas from Messrs. Sutton's and the several displays of Orchids, the Drill Hall on Tuesday last would have presented a very dull appearance, although the hardy plants were choice and interesting. Messrs. Sutton filled more than one long table with Primulas, prettily arranged, and proving a great attraction. Eight certificates (two first-class certificates, five awards of merit, and one botanical certificate) were awarded by the Orchid Committee.

ORCHID COMMITTEE.

Present: Messrs. Harry J. Veitch (chairman), James O'Brien, Jeremiah Colman, J. G. Fowler, de B. Crawshaw, H. M. Pollett, H. Ballantine, Norman C. Cookson, E. Brooman White, Jas. Douglas, E. Hill, Frank A. Eehder, H. S. Pitt, G. F. Moore, T. W. Bond, N. F. Binney, H. J. Chapman, W. Boxall, W. H. Young, H. A. Tracy, and J. Wilson Potter.

Jeremiah Colman, Esq., Gatton Park, Reigate (gardener, Mr. W. P. Bond) exhibited a beautiful display of Orchids in flower. In the centre were *Lælia anceps* var. *Stella*, *Zygopetalum Mackayi*, &c., on either side of them being *Calanthes*, *Dendrobium Melanodiscus aurora*, *D. nobile nobilium*, *D. Juno*, *D. Ainsworthii*, and others, as well as several *Odontoglossums*. Silver Flora medal.

Sir Frederick Wigan, Bart., East Sheen (Orchid grower, Mr. W. H. Young) sent a very choice group, consisting chiefly of *Phalenopsis*. Included were *P. amabilis*, *P. schilleriana*, *P. s. vestalis*, *P. casta*, *P. grandiflora*, *O. spectabile* (crispa-harryanum), *Dendrobium Wiganiae*, *Lælia anceps* and varieties. Silver Flora medal.

Messrs. Charlesworth and Co., Heaton, Bradford, Yorkshire, sent a very bright group of Orchids, including such highly coloured flowers as *Lælio-Cattleya Charlesworthii*, *L. C. C. var. princeps*, *Oncidium splendens*, *Cypripedium aureum* var. *hyeanum*, *Lycaste Mary Gratrix* (L. Skinneri x L. plana), *Lycaste lasioglossa*, &c. Silver Banksian medal.

Odontoglossum pardalinum, with yellow, thin-petalled flowers, marked with chocolate, was given a botanical certificate. Exhibited by H. S. Pitt, Esq., Stamford Hill, N. (gardener, Mr. F. N. Thurgood).

A cultural commendation was given to A. Seth Smith, Esq., Silvermere, Cobham, Surrey (gardener, Mr. J. Quarteman), for a fine plant of *Anguicum sesquipedale*.

Messrs. Hugh Low and Co., Bush Hill Park Nurseries, Enfield, exhibited *Cattleya Trianae* Mrs. de Barri Crawshaw, and *Cypripedium Thompsonii*.

Lælio-Cattleya Luminosa (Hessle variety) was exhibited by W. P. Burkinshaw, Esq., The West Hill, Hessle, near Hull.

De Barri Crawshaw, Esq., was given a cultural commendation for *Odontoglossum Pescatorei roseifolium*, the raceme carrying three dozen flowers.

CERTIFICATED ORCHIDS.

Lælia anceps hallidayana var. *craveshayana*.—A beautiful variety, with broad petals, both these and the sepals pure white; the interior of the lip is heavily veined with pale crimson-purple upon a white ground; the front of the lip is white with faint markings of pale purple. Exhibited by de B. Crawshaw, Esq., Rosefield, Sevenoaks (gardener, Mr. W. J. Stables). First-class certificate.

Cypripedium Venus Oakwood var. —A delicately beautiful flower; the ground colour of the dorsal sepal and the rather long drooping petals is very pale yellow, marked with pale crimson dots; the dorsal sepal has, however, a rather broad margin of white; the lip is of a deeper tint than the ground colour of the petals and sepals. *C. niveum* and *C. insignis* Sandersæ are the parents of this hybrid. Exhibited by Norman Cookson, Esq., Oakwood, Wylm (gardener, Mr. William Murray). First-class certificate.

Lycaste Skinneri var. *Lady Gladys*.—A very delicately coloured variety of *L. Skinneri*. The sepals and petals are pure white, the upper lobes of the lip being tinged with faint rose. This new variety arose, we understand, in an importation of *Lycaste Skinneri*. The Orchid committee honoured it with an award of merit when exhibited by Messrs. Charlesworth and Co., Heaton, Bradford, York.

Dendrobium wardianum Fowleri.—A most interesting variety of *D. wardianum*. The lower sepals, in that portion immediately behind the lip, are beautifully coloured and marked almost exactly as is the lip. These sepals are also much broader than usual. The petals and sepals are also prettily twisted at the lip. Exhibited by J. Gurney Fowler, Esq., Gledblands, S. Woodford (gardener, Mr. J. Davis). Award of merit.

Cypripedium rubescens Ranjitsinhii.—This hybrid *Cypripedium* owes its origin to the intercrossing of *C. villosum* var. *Boxalli* and *C. acanthum superbum*. The dorsal sepal is very heavily marked with dark crimson-black, a green ground colour showing towards the edges, although there is a narrow margin of white all around. The petals are green, heavily suffused with red-brown. Exhibited by F. Wellesley, Esq., Westfield Common, Woking (gardener, Mr. J. Gilbert). Award of merit.

Cypripedium insigne fowlerianum.—This is a prettily marked and well-formed flower, the dorsal sepal being marked with blotches of brown, those at the apex being rose-purple. A margin of white runs around these markings, the petals and lip brown tinged with red. Shown by J. Gurney Fowler, Esq. (gardener, Mr. Davis). Award of merit. A natural coloured photograph (an excellent reproduction) was shown of this flower.

Lælio-Cattleya Cappei.—*Cattleya Gigas* and *Lælio cinnabarina* are the parents of this new hybrid. The petals and sepals are of a good but not rich yellow, and the lip a rich crimson. Exhibited by Sir F. Wigan, Bart., Clare Lawn, East Sheen (Orchid grower, Mr. W. H. Young). Award of merit.

FRUIT COMMITTEE.

Present: Messrs. George Bunyard (chairman), Henry Estling, Joseph Cheal, S. Mortimer, Alexander Dean, C. Herrin, M. Gleeson, H. Markham, George Kell, Edwin

Beckett, G. Norman, J. Willard, James H. Veitch, H. Balderson, E. Shaw-Baker, and Rev. W. Wilks.

Lieutenant-Colonel Vivian Rood, Ashton, Trowbridge, exhibited twelve varieties of Apples, which included good specimens of King of Tompkins County, Hoary Morning, Annie Elizabeth, Fearn's Pippin, and others. Silver Banksian medal.

Cultural commendations were awarded to Pear Beurre Rance from the Earl of Ilchester, Holland House (gardener, Mr. W. Dixon), and Pear President Barabe from Lord Suffield, Guntton Park, Norwich (gardener, Mr. Allan).

Mr. John Watkins, Pomona Farm, Witherington, Hereford, sent Apples Gidley's Pearmain, raised from Cornish Gilliflower, by the late Mr. John Gidley, Exeter, and also Apple Pomona's Dessert, a cross between Cox's Orange Pippin and King of the Pippins, a handsome highly coloured fruit, said to be a good keeper.

Mr. James Harris, Blackpill Nurseries, Swansea, exhibited Potato "Sir John Llewellyn," grown in the open field and in the garden. Cultural commendation.

FLORAL COMMITTEE.

Present: Mr. Charles E. Shea (chairman), Messrs. C. T. Drury, H. B. May, James Walker, G. Reuthe, R. Dean, J. F. McLeod, James Hudson, J. Jennings, C. R. Fielder, Charles Dixon, Charles Jeffries, W. Howe, C. E. Pearson, H. J. Jones, W. P. Thomson, C. Blick, E. H. Jenkins, George Paul, W. J. James, and Rev. F. Page Roberts.

Quality rather than quantity may be said to be the characteristics of the exhibits on this occasion, not a little of the interest being obviously centred on the earliest of the hardy flowers, among which the bulbous Irises reigned supreme. In this particular branch quite a notable lot of things were set up by Messrs. Wallace, of Colchester—firstly, the golden flowers of *I. Danfordiae*, a perfectly miniature yet showy kind, and around were grouped such as the unsurpassed *I. Heldreichi*, bold and very telling in effect; *I. Tauri*, a fine and fitting companion, in which were some extremely variable and distinct forms; *I. Histrio*, *I. histrioides*, and a fine plant of the last, named *Major*, that well merited the distinction. It is, indeed, a handsome form. Then came *I. bakeriana* and some beautiful flowers of *I. stylosa*, several good *Snowdrops*, as *G. Ikarie*, *Whittallii*, &c., with *Crocus Tauri*, a nicely striped kind, and two early *Colchicums*, viz., *C. hydrophilum* and *C. libanoticum*; in short, a pretty and interesting gathering. Bronze Banksian medal.

From Messrs. George Jackman and Son, Woking, came nicely flowered pans of *Iris tubergeniana*, a pale yellow sort very profuse in its flowering, and *I. Tauri*: while in the lot from Messrs. Ware, Limited, Feltham, were several of the Irises already noted and an interesting assembly of mostly hardy *Cacti*, a group not sufficiently known for their enduring capabilities. In these we noted several species of *Echinocactus*, as *Simpsoni*, *phoeniceus*, *spinosa*, &c., while of *Opuntias* *O. bicolor*, *O. polyantha*, and *O. arborescens* were remarked. *Mammillaria arizonica* is also distinct. All these are of considerable interest, and excite some attention by their quaint, picturesque forms. *Hessia spiralis* is a dainty white pink-tinted bulbous-flowering plant on frail pedicels, while *Anemone blanda* gave pleasure by its earliest buds. *Saxifraga burseriana major* was full of flowers and very pretty, and not less so the frilled cups of *Narcissus Chusii*, pure and spotless in their whiteness. Some few *Clematises* were in this group, the most distinct being the red-barred *Marcel Moser*, which is quite an acquisition to these fine climbing plants. Vote of thanks.

Another compact yet highly interesting group of the earliest flowers were from Messrs. Barr and Sons, Covent Garden. Here the well-known *Iris Heldreichi* made quite a sumptuous display of its large, handsome flowers, and, judging by the interest displayed in this kind, it is destined to become most popular. Other Irises already mentioned were in less quantity, but all fresh and charming. *Galanthus Elwesii precox* is good, and so, too, *G. Ikarie*, &c. Then, in an assortment of *Hebeles*, we noted as most distinct *H. niger scoticus* and *H. niger Juvernii*, both having large, handsome flowers. In the *Lenten Roses*, *H. colchicus magnificus* is a grand form, very deep in colour, while *H. caucasicus lutescens* is the nearest approach as yet to yellow. The committee awarded a bronze Flora medal.

Begonia alba grandiflora is one of the Lorraine set, a white kind with large flowers and very free. In some ways it is distinct from all the others, and may best be described as a much improved "Caledonia," inasmuch as the variety more nearly represents the last-named kind. Of its freedom to bloom there is no doubt, the whole of the plants being exceedingly well flowered. This came from Mr. G. Lange, Hanworth Nursery, Hampton. Vote of thanks. *Begonia manicata variegata* from Sir Lawrence Alma Tadema, Grove Road, N.W. (Mr. C. Willingham, gardener), was well coloured and rather good and distinct. We imagine a much improved colour would follow somewhat cooler treatment, and doubtless in the conservatory it would make a good plant.

Some cut blooms of *Primula sinensis* Island Gem came from the Isle of Wight Conservative Club, Newport (Mr. C. Martin, gardener), the colour being a nice tone of pink; and the Earl of Ilchester, Holland House, Kensington (gardener, Mr. Dixon), sent a nicely flowered example of *Loropetalum chinense*, having thread-like or linear white segments in considerable quantity. The arrangement, too, of the petals is both curious and interesting. Vote of thanks.

The largest exhibit of the day came from Messrs. Sutton and Sons, Reading, and was composed entirely of *Primula sinensis*. The group occupied a full table through the centre of the hall, and in plants of medium size displayed the best shades of colour and the newest forms and types to signal advantage. The kind that attracted the most attention is an entirely new break, and is called "The Duchess." The blossoms are of good size and form, white with a centre of rose-carmine, encompassing a golden-yellow eye. In each the colour is well defused, and in the case of the two former about equally divided. So distinct is this kind from all else that the committee departed from their usual course and

made a separate award to the variety, a signal honour in any group such as the Primula, which is so readily reproduced from seed. Other good kinds were Pearl White, extra fine; Crimson King, a very rich intense shade; Reading Blue, very good; Royal White, very fine and handsome flowers; Pink Beauty, semi-double; Giant Pink and Giant White are also noteworthy kinds. In the stellata group was a pretty pale blue kind, very charming and graceful, with medium-sized flowers. These stellata kinds are much appreciated by gardeners, who find them so useful in the cut state by reason of the longer stems characteristic of this type. Silver Flora medal.

Messrs. Hill and Son, Edmonton, had a capital group of Ferns, mostly of showy and useful kinds. Of those noted *Gymnogramma peruviana*, *Blechnum latifolium*, the young fronds well coloured; *Asplenium inequale*, many of the older fronds being densely set with a multitude of small plants; *Blechnum braziliense*, *Asplenium lucidum*, with glossy fronds; *Cheilanthes elegans*, very beautiful; *Oncidium japonicum*, one of the most elegant of Ferns; several good *Lastreas*: *Davallia filifolia* major, a large spreading plant, together with *Adiantum* and a few choice *Gymnogrammas*. A basket of *Saxifraga sarmentosa variegata* was particularly well coloured and very attractive. Silver Flora medal.

Messrs. Veitch and Sons, Limited, Chelsea, again had a display of the fine *Coleus thyrsoideus*, the plants this time being in 9-inch pots, and having some six or eight crusses of bloom each. These old plants, it appears, are the parents of the younger batch shown at the last meeting, and the fact is both interesting and instructive, as it proves the plant is capable in good hands of producing a long succession of flowers when its cultivation is understood. The spikes of bloom were perhaps more densely formed than the earlier batch of a fortnight ago. Vote of thanks. An epigone of flowers came from Mr. J. Williams, 4A, Oxford Road, Ealing, W., the arrangement being tastefully carried out. M. L. Linden, Brussels, sent *Hemanthus imperialis*, a very fine form, to which we refer under awards.

AWARDS.

The following received a first-class certificate: *Hemanthus imperialis*.—This is another of those remarkable and almost indescribable novelties of the genus *Hemanthus* to which greater attention has been drawn of late by the recent additions from the Belgian Congo, thanks to the energies of M. Duchesne, who first discovered these unique plants. Hardly a year ago, in fact at the last Temple show, M. Lucien Linden brought over from Brussels a set of these plants, of which one or two were admittedly species, and others hybrids or crossbreds. All were meritorious, showy, and far away distinct from anything previously known. The present plant is said also to be a species; the flowers are rich orange-salmon coloured, and may well be compared to a finely-developed *H. mirabilis*, which attained to some notoriety last season. Obviously these plants represent a most distinguished race, that produce their flowers and foliage at the same time, a fact that greatly enhances their value. The entire globular head is of enormous size, well calculated to attract the attention of any interested in flowering plants. From M. L. Linden, Brussels.

Awards of merit to—

Begonia alba grandiflora.—This may briefly be described as a much improved *Caledonia*, and like this belongs to the Lorraine section of these plants. The present plant is not quite pure white, there is a touch of green shade in the flowers. The latter, however, are large and abundant, the plant being obviously as freely flowered as is typical Lorraine, than which we can hardly grant it more praise. From Messrs. G. Lange, Hampton, Middlesex.

Primula sinensis The Duchess.—A decidedly new break in Chinese Primulas, the flowers being of good size, white, with rose-carmine centre surrounding a golden eye. The colours are remarkable and well defined, and is generally regarded as the most distinct break for a long time. Shown by Messrs. Sutton and Sons, Reading.

HIGHGATE AND DISTRICT CHRYSANTHEMUM SOCIETY.

THE annual general meeting of the above society was held on Wednesday evening, the 22nd ult., the president, Mr. C. F. Cory-Wright, J.P., D.L., presiding, and was supported by a good attendance of members. The minutes of the last general meeting having been confirmed, the treasurer (Mr. J. McKechar) submitted the financial statement for 1901, which showed the society in a solvent condition. The secretary (Mr. W. E. Boyce) read the annual report, and the balance-sheet and report were adopted. The treasurer moved a vote of thanks to Mr. Cory-Wright for his services to the society, which was seconded by Mr. Bevan, and carried by acclamation. Mr. Cory-Wright, in responding, stated that in addition to the prizes he gave last year to the occupiers of the Hornsey District Councils Workmen's Dwellings he would offer a silver cup. The election of officers then took place, and resulted as follows:—President, the Right Hon. the Earl of Mansfield, proposed by Mr. Cory-Wright, who stated that Lord Mansfield had intimated his intention of attending the Alexandra Palace on October 29 to open the society's exhibition, and preside at the annual dinner of the society to be held there the same evening. He would also give £20 towards the prize fund. Mr. J. McKechar, Mr. W. E. Boyce, and Messrs. E. W. Smyth and G. Atkins were re-elected treasurer, secretary, and auditors respectively, and the following were elected to serve on the committee:—Messrs. T. Bevan, J. H. Witty, T. L. Turk, A. Taylor, Stonebridge, Saunders, Adams, Webber, Pannell, Boue, Mathews, Rundell, Harris, Bass, Rand, Sedgwick, Woods, and Bignell. The secretary announced that the schedule of prizes was nearly completed for the committee to settle, and he had received numerous fresh special prizes, amongst which will be found Mr. H. Burt, J.P., £10 10s., and Mr. Ronald £3 3s. for two classes of Grapes; Mr. E. P. Sells £2 2s. and Mr. Bely £2 2s.

for twelve Japanese incured blooms; medals from Mr. H. J. Jones, Messrs. Wood and Son, and Mr. Wells, and other prizes from several trade firms. The meeting closed with a hearty vote of thanks to Mr. Cory-Wright for presiding.

ANSWERS TO CORRESPONDENTS.

RULES FOR CORRESPONDENTS.

Questions and Answers.—The Editors intend to make THE GARDEN helpful to all readers who desire assistance, no matter what the branch of gardening may be, and with that object will make a special feature of the "Answers to Correspondents" column. All communications should be clearly and concisely written on one side of the paper only, and addressed to the EDITORS OF THE GARDEN, 20, Tavistock Street, Covent Garden, London. Letters on business should be sent to the PUBLISHER. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper.

Name of plant.—A. Eagle.—*Justicia chrysotephana*.

Culture of *Kæmpferia Ethelæ* (TYSON).—We fail to see the weak point in your culture of *Kæmpferia Ethelæ*, for though it will succeed with rather less heat than *Caladiums*, this should not prevent its flowering. The fact that it is a comparatively new plant may have led to its having been propagated as freely as possible, and on this account its period of rest shortened. Such treatment would, of course, militate against its flowering the first season, but we have little doubt, if potted about the end of February in a mixture of loam, leaf-mould, and sand, and placed in the cool end of the stove, that your plants will bloom this year. Of course, the tubers are now totally dormant and given only sufficient water to keep them from being quite parched up.

Water Lilies in galvanised tank (MISS C. M.).—A Water Lily could be grown in the galvanised tank, but it would be as well to give the tank a coating of Portland cement made thin like paint, and painted or slopped on with a whitewashing brush.

Celeriac (LONDONER).—We have noticed in one of the daily papers the complaint to which you refer with respect to the difficulty in securing roots of this Celeriac. Whether it be as maintained a real remedy for rheumatism or not, at least the roots are very nice peeled, cooked, and served up with gravy or melted butter. They are also very nice when peeled and sliced with salading. We have previously heard Celeriac of the ordinary type being highly recommended as an antidote to rheumatism, even the waste stems and leafage well washed and scalded with boiling water making a good anti-rheumatic tea. We have, however, no experience of the fitness of any Celeriac for such purpose. Seed of Celeriac can be freely purchased, and may be sown in shallow pans under glass thinly in March, the plants being treated as ordinary Celeriac, then planted out on to good well-manured soil in rows 2 feet apart, where by the autumn good roots will result. Liberal waterings are, of course, helpful.

Potatoes for planting (F. M. H. S.).—Any experiments you may make with respect to the best sizes of sets of Potatoes for planting, and whether whole sets are better or otherwise than large tubers cut into two or more sets, will but give the same results that have been obtained by others, not only here but abroad, for experiments or trials of a similar nature have been made from time to time for many years, and always with one result—that is, that whole sets always give better crops than cut sets do, and further that the whole sets ranging from 2½ oz. to 3½ oz. in weight give the best average results, as compared with other sizes lesser or greater. That being so it is waste of consumable tubers to use for seed purposes large ones when smaller ones are better. But it is unwise to use tubers that run below 2½ oz. in weight in the bulk, as those are too small, and are best utilised cooked for poultry.

Salad Tomatoes (EPIACRE).—We do not quarrel with your taste in relation to the consumption of Tomatoes with salading. There seems to be no other garden product which is used stewed or for the making of sauce that is used as you desire largely as a salad, and still further is used in the dessert as fruit. In either form the fruits are most acceptable, but both for salading and for dessert we prefer the small-fruited varieties in preference to large fruits, which, however, handsome, have to be sliced up to be eaten. But our taste may not be everyone's. For slicing there are scores under name that are good, Winter Beauty, Frogmore Selected, Polegate, Perfection, Duke of York, Comet, and literally hosts of others all red and good. Of yellows, Golden Queen, Golden Jubilee, Blenheim Orange, and Sunbeam are excellent. But of smaller fruited Red Dessert, Red Cherry, Cluster, and Glory of Italy, reds, and yellows Golden Nugget and Chiswick Peach are the best.

Retarding plants (W. J. M.).—If you have a specially cool or indeed cold place, such as the shed over an ice house or any deep cellar or cavern or any place where the temperature is during warm weather externally abnormally low, you may hope by storing bulbs, roots, or even plants that will bear such cold exposure to retard them, and thus to have them flowering or fruiting out of their natural seasons. But the practice of retardation on any considerable scale is yet a limited one, and so far has been utilised almost exclusively for market purposes. We are not sure that the practice is one to be greatly admired, for in gardening plants succeed to plants so rapidly, each one in its season, and bringing with it its special beauty, that Nature seems best when helped rather than when retarded. Of course forcing with the aid of warmth is simple enough, and may be applied to almost anything, but

retardation is a much more difficult process. You may try with Lily of the Valley roots and Lilum bulbs to begin with.

Tobaccos (ST. ALBANS).—The three varieties grown in gardens chiefly are the tall red-flowered *Nicotiana grandiflora*, the tall white-flowered *Nicotiana sylvestris*, and the older, better known, and dwarfier white variety *Nicotiana affinis*. The first-named is chiefly used to assist in creating fine leafage effects with what are called sub-tropical plants in the summer. It will reach to the height of from 6 feet to 7 feet in rich soil. *N. sylvestris* is of comparatively recent production, but still is tall. Its merit is chiefly found in its capacity to keep its flowers expanded in the sunshine, whilst those of the older affinis, though so deliciously perfumed, close up. But still the flowers of the former hang down in the sunshine, and much of the effect they would otherwise give is lost. *N. affinis*, if flowers be closed during the day, amply compensates for that by their rich perfume later. This variety should be planted where the sun goes off about 3 p.m., as then the blooms re-expand quickly.

Diseased Cyclamens (J.).—The Cyclamen plant you send is attacked by one of the eel-worms, probably *Heterodera radicola*, which causes the clubbing of the roots, and their appearance at times like a row of elongated beads. I can suggest no remedy. Possibly cutting off all the roots might save the corm if it were thoroughly washed with some insecticide afterwards, and planted in soil that was not infested, but I should think that the best thing to do would be to burn the plants and the soil in which they are growing. I should certainly be careful not to turn the plants out of their pots on the potting bench, for fear that any of the infested soil should get mixed with soil that is not.—G. S. S.

Fungus and *Chamærops Fortunei* (C.).—Sulphur is in many cases an active agent in the destruction of fungus life, and I should not hesitate to use it. The crumpled leaves of Peach trees are sometimes caused by insects, at other times by fungi. If caused by the former, on uncurling the leaf the aphides, which are the culprits, will be found inside, and the best remedy is to dip the ends of the shoots, as soon as the attack is noticed, in tobacco water or a solution of paraffin emulsion. Sulphur has not much effect on the fungus, as the more vital part of the latter is within the leaf. The dryness of the ground has very probably caused a want of vigour in your *Chamærops*, for these plants should never be allowed to suffer from drought. I believe a good loamy soil suits them as well as any other, and most fungi are more likely to attack plants that are not in vigorous growth than those that are. It is quite a mistake to think that excess of moisture is necessary to the growth of fungi, and I imagine that the unhealthiness of one plant rendered it liable to suffer from the attack of the fungus while its more healthy companion escaped, just as a person in good health is less liable to catch a disease than one that is delicate and sickly. How the spores of the fungus reached the roots is a difficult question to answer. They may have fallen on the ground and have been washed down by the rain, or carried down by worms or insects, or in various other ways. It may have been introduced by the leaf-soil you mention, but a fungus that would live on decayed vegetable matter would not probably do so on living. If the leaf-mould be well rotted, I cannot see that it can matter what kind of leaves and twigs it is composed of. It is impossible to know which of the roots may have the spores of the fungus on them, but any roots that are decayed should be cut away. Under the circumstances I should prefer a chemical manure, such as nitrate of soda or a mixture of saltpetre and phosphate of potash, half an ounce of each dissolved in a gallon of water.—G. S. S.

"Scraps from Wisley."—Please read on page 51 in Mr. G. F. Wilson's note, "Scraps from Wisley," line 8, for loam "coarse fish." The sentence should read thus: "Ponds that were never very low before shrunk so much that the coarse fish began to sicken," which to anyone with ponds says much.

BOOK RECEIVED.

'A Revision of the genus *Calochortus*.' By Carl Purdy San Francisco, 1901.

CATALOGUES RECEIVED.

Bulbs and Plants.—R. Wallace and Co., Kilnfield Gardens, Colchester.

Hardy Plants and Fruit Trees.—Goos and Koenemann, Nieder Walluf, Rheingau, Germany.

Flower and Vegetable Seeds.—Robert Veitch and Sons, High Street, Exeter; William Baylor Hartland, Cork, Ireland.

General Seed List.—George Bunyard and Co., Royal Nurseries, Maidstone; Laxton Brothers, Bedford; Barr and Sons, King Street, Covent Garden, London; Pope and Sons, Birmingham; Chr. Lorenz, Erfurt, Germany; Oscar Knopff and Co., Erfurt, Germany.

Flower Seeds.—Ryder and Sons, St. Albans.

Sweet Peas.—Leggatt, Blake, and Tye, Guildford.

Spring Bulbs, Vegetable and Flower Seeds.—Ant. Roozen and Son, Overveen, Haarlem, Holland.

Seeds.—John Forbes, Buccleuch Nurseries, Hawick, Scot. land.

Roses.—P. Guillot, Lyons, France; G. W. Piper, the Nurseries, Uckfield, Sussex.

TRADE NOTE.

IN the catalogue of seeds issued by Messrs. Richard Smith and Co., Worcester, for 1902 there are several novel features. We notice remarks upon vegetables in regard to health, preparation of vegetables for the table, a list of decorative vegetables, culinary notes and uses under each heading, together with a list of prizes offered by Messrs. Richard Smith.

THE GARDEN

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[FEBRUARY 8, 1902.]

CHANGE OF PLANT NAMES.

A FERTILE source of confusion is the continual changes that take place in the naming of plants, so that it is really impossible to follow them all, and no end of trouble is thus caused. An illustration of the differences of opinion occurs in a late issue of *THE GARDEN*, where on page 32 there is a most interesting article on "The Winter Beauty of Conifers," and that by one who deals with the subject in a masterly way. Still, when speaking of Retinosporas the writer goes on to say they are now classed with the *Chamaecyparis*, but in this he is behindhand, for though a few years since such was the case, now both in the "Kew Hand List" and in the last edition of Veitch's "Manual of Coniferae" most of the Retinosporas, as well as the plant so long known as *Chamaecyparis sphaeroidea*, are now included in the genus *Cupressus*, the generic name of *Chamaecyparis* being thus eliminated altogether. These changes would not be so bad if the recognised authorities were all agreed, but to the man whose library is somewhat limited the name *Abietia Douglasii* may prove to be a puzzle, yet as the Douglas Fir (*Abies Douglasii*) it is known to everyone. This by no means exhausts its names, for it is *Pseudotsuga Douglasii* of Carrière and the "Kew Hand List," and is also known as *Picea Douglasii*, *Pinus Douglasii*, as well as other names.

Again, leaving this class, another puzzle is furnished by the plant known for years as *Lasiandra macrantha*, but which at Kew bears two names, viz., *Tibouchina macrantha* and *Tibouchina semi-decandra*. Though innumerable instances might be quoted I will confine myself to one more, and that is the pretty little warm house climber long known as *Manettia bicolor*. This is *Manettia rubro-lutea* at Kew, yet strange to say it was figured not long since in the *Botanical Magazine* as *Manettia bicolor*, so that when doctors differ in this way—who is to decide?—T.

—"quæ"

Imberbes didicere, senes perdenda futuri."

Few people like to unlearn what they have taken some trouble to learn. Sixty years ago I knew the scientific names of a large proportion of our native fauna and flora and still remember them, and it is vexing to find how many of them have become obsolete,

and are changed. To some changes in botanical names one becomes easily reconciled: as when for example such hard generic names as *Retinospora* and *Chamaecyparis* are changed for *Thuja*, or even for *Cupressus*: but to put the Douglas Spruce in a genus by itself and call it *Pseudo-tsuga* is intolerable, as your correspondent "T." remarks. However it is not fair to accuse botanists of changing names wantonly or without cause. As science progresses we must be prepared for new scientific classifications. Perhaps recent discoveries supply missing links and obliterate the line of separation between two genera, so they are joined in one. This calls for some modification in specific names; for example when the genus *Orobus* was absorbed in *Lathyrus* it was found that such names as *hirsutus* and *tuberosus* occurred in both, so they must be altered. Again *Lathyrus lathyroides*, "the lathyrus-like *Lathyrus*" was absurd, and this old garden favourite, figured eighty years ago in the *Botanical Magazine* was renamed *Vicia unijuga*, a change by no means yet generally recognised.

No universal botanical catalogue can attain finality: these are not like dictionaries of the words of a dead language such as classical Latin or Greek, but may more aptly be compared to a London Directory or to a Peerage which has to be kept up to date by a new edition every year. Perhaps the "London Directory" contains as much matter as "Index Kewensis," and requires as much labour, though less skilled labour, as that botanical work would do to keep it corrected year by year, but then there is a far greater demand for it.

But a short notice of "Index Kewensis" will show that the occasional changes noticed above are by no means the greatest difficulties which botanists as well as gardeners have to contend with in establishing the correct names of plants. This wonderful botanical work contains a list of about half a million names. These are printed in two distinct types, upright and italic. The former, which are not more than one-third of the whole number, are the accepted names of true species; those in italics are obsolete or rejected names. Besides the enumeration of all the species in obsolete genera, the names in italics may be divided into two classes: (1) Those in which different names have been given by different botanists to the same species, and (2) those in which the same name has been given by different botanists to different species—and in these latter we

frequently find the same name repeated three or four times. Each disallowed name is referred to some true species which is printed after it in upright type.

The labour of adjusting correctly all this cross-naming may be understood, when it is stated that in such well known genera as *Campanula* and *Aster* there are about a thousand enumerated in each, not more than one-third being accepted as belonging to true species. In deciding the claims of different plants to the same name or of different names to the same plant the question of priority is generally considered to be paramount, though not always easy to determine. Of course "Index Kewensis" is a work not within reach of everyone, but the Hand Lists of the different botanical classes cultivated at Kew may be bought on the spot at a trifling cost, and are most carefully compiled and revised, and intended to supersede all other authorities, even the "Index Kewensis." Your correspondent "T." asks, if he finds at Kew two different names to the same plant, or the same plant named differently in the *Botanical Magazine* and in the garden at Kew, which is he to believe: for my part I hold that uniformity in naming will never be attained amongst gardeners unless we agree to follow one authority, and that authority should be the Hand Lists of the Royal Gardens of Kew. The discrepancies which may sometimes be found on the labels will not be found in the Hand Lists, and if pointed out will be at once corrected.

C. W. D.

(I add an extract as a specimen of the plan of "Index Kewensis.")

Lasiandra macrantha Linden & Seem. in Journ. Bot. II. (1864) 361 = *Tibouchina semidecandra*.

L. macrantha Rich. ex Triana in Trans. Linn. Soc. XXVIII. (1871) 44 = *T. Candolleana*.

L. macrantha Vukot in Rad. Jugos Akad. Zagreb XXVII. (1874) 212 (Quid?) Habitat? *Manettia bicolor* Paxt. Mag. Bot. X. (1843) 27 = *luteo-rubra*.

M. luteo-rubra Benth. in *Linnaea* XXIII. (1850) 445. Brazil.

ROYAL HORTICULTURAL SOCIETY.

A VIGOROUS and completely satisfactory report of the past year is to be presented to the Fellows of the Royal Horticultural Society at the annual meeting on Tuesday next, evidence of the wisdom of adopting a purely horticultural policy, without any attempt to rejoice

in the possession of moderate wealth by an expensive expenditure. Here are a few pleasant extracts to show the firm foundation upon which the society happily rests.

INCREASE OF FELLOWS.—"It is very gratifying to the council to be able to record that in the first year of the new century a larger number of new Fellows have joined the society than in any year since its establishment in 1804. The exact number of new Fellows elected this year (1901) has been 930, which, if contrasted with the 1,108 who formed the whole number of the society in January, 1888, of whom only 552 were subscribing Fellows, indicates the development which has taken place in the society recently. The council hope that everyone who has the society's welfare at heart will continue to endeavour to promote it by enrolling new Fellows."

THE SOCIETY'S AWARDS.—"A corrected list of the awards made by the society to plants, flowers, fruits, vegetables, &c., to the end of 1899 has been issued. It has involved a great deal of labour and research, and the thanks of the society are due to those gentlemen who assisted in the work, especially to those who prepared the section which deals with Orchids. The price of the entire volume has been fixed at 5s. (or the Orchid section can be obtained separately, *interleaved*, at 5s.), and the council hope that many Fellows will take advantage of the information it contains in order to meet the unavoidably heavy expense incurred in its publication."

STUDENTS AT CHISWICK.—"The council wish to call attention again to the good work done at Chiswick under Mr. Wright's superintendence, not only in the garden, but among the students. During the last three years one of our Chiswick students has taken a first class in honours in science and art, one a first in advanced botany, two a first in elementary botany, at South Kensington; one has been appointed curator of the Botanic Gardens at Antigua; one is a botanical collector for the London School Board; one has been appointed to conduct an important series of experiments with land and crops; thirteen have taken a first class in the Royal Horticultural Society's examination in horticulture; four have obtained positions at the Royal Gardens, Kew; one is a botanical demonstrator at Owen's College, Manchester; one is editor of a garden paper; one is fruit growing and farming in Ireland, and another in Canada. Mr. Wright reports to the council: 'The demand for energetic trustworthy young men from Chiswick is rapidly increasing; there is no difficulty in placing such in good situations, our supply being unequal to the demand, but they *must all be workers*. During the past year applications were received for thirty-four head gardeners, nine single-handed gardeners, six foremen, eight journeymen, and several miscellaneous men, such as landscape gardeners, propagators, &c.'"

FRUIT EXHIBITION AT THE CRYSTAL PALACE.—"The exhibition of British-grown fruit held by the society at the Crystal Palace on October 10, 11, and 12 was, from an educational point of view, most satisfactory. As an object-lesson in British fruit cultivation this annual show stands unrivalled, and is of national importance. Those who have visited it from year to year cannot fail to have been impressed by the wonderful advance which has been made in the quality of the hardy fruits exhibited. And as the importance of fruit-growing in this country cannot well be over-estimated the council invite Fellows and their friends to support them in their efforts to maintain and improve this exhibition by visiting it, and by subscribing to its funds, for it cannot be too widely known that the continuance of the show is absolutely dependent on at least £100 being raised by subscription each year towards the prize fund. The show involves the society in a very large expenditure without the possibility of any financial return. The council cannot therefore continue it unless sufficient interest in it is taken by Fellows and their friends to provide £100 towards the prize fund. And this will in coming years be even more important than heretofore, as the directors of the Palace have signified to the council that they feel compelled to

still further decrease their contribution for 1902 by yet another £50. A glance at the list of subscribers will show how small has been the interest taken by the bulk of the Fellows. The council would point out that this is not a local show with a few large prizes, but that a large number of small prizes have been provided in order to secure the best fruits in each section; special prizes have been allotted to market growers; and counties have been grouped in such a way that growers should not have to compete with exhibitors from localities more favoured by climatic conditions. These points will be still further extended should sufficient financial support be forthcoming. Subscriptions should be sent at once to the Secretary, 117, Victoria Street, Westminster, and if the list prove satisfactory the schedule will be issued in April, and the show held on September 18, 19, and 20, 1902."

THE COMING ROSE CONFERENCE.—"On the kind invitation of the Earl and Countess Ilchester the council have decided to hold a conference on and exhibition of Roses at Holland House, Kensington, in connection with one of the ordinary fortnightly meetings of the society. This conference and show will take place on Tuesday, June 24. The exhibition of flowers will be continued on Wednesday, June 25, unless it should be found impracticable on account of the arrangements for His Majesty's Coronation, in which case due notice will be given. A special schedule of prizes has been prepared with the kind co-operation of the National Rose Society, and will be found incorporated with the 'Arrangements, 1902.' Fellows are particularly requested to correct the dates given for this conference on their tickets, most of which had been printed before the date of the Coronation was announced."

We merely quote these extracts to indicate the strong position of the society, and the balance-sheet is as satisfactory as its present straightforward and earnest endeavours to advance horticulture in the best ways.

NOTES OF THE WEEK.

The proposed horticultural hall.

—Seeing how much interest has of late been created in relation to the proposed horticultural hall, and having heard it stated that the council of the Royal Horticultural Society, in conjunction with certain Fellows, were seeking to find a suitable site for such hall in London, I turned to the report of the council to be presented to the Fellows at the annual general meeting on Tuesday next, and failed to find any reference whatever to the matter. That is disappointing. Has general report proved false after all, or if not so, have the council nothing to report, hence the reticence observed, or may it be that the promoters of the movement are outside the council entirely? No doubt some information will be gained at the meeting, but it is evident that at present there is no prospect of any substitute for the Drill Hall being supplied. —A FELLOW.

Two good Peas.—I noticed in THE GARDEN of February 1 a note on Carter's Daisy Pea. May I advocate as well one which I have tried most successfully for the past two years, and have recommended with likewise success Veitch's early and most prolific Chelsea Gem. Also as a middle or late Pea, Alderman I consider ranks very high, bearing profusely fine, long, and well-formed pods, and considering last year's bad season was remarkable. —CHAS. WM. CROSBY, Broome Hurst, Dorking.

Propagating Tree Pæonies.—In reply to this question I beg to state that the Chinese propagated Tree Pæonies perhaps 200 years before it was done by Europeans, and that most likely we have learnt the method from them; the roots of albiflora maintain the life of the scion for a year or two, when the latter will have taken root for itself and the stock will die away. Propagation from seed is seldom resorted to, because it takes five to eight years before the seedlings show flowers in proper condition, but our most perfect varieties have been raised from seed, and it is of rare occurrence that seedlings revert to single forms, especially if during flowering time a

soft brush is used to fertilise and hybridise the flowers. Seed should be sown as soon as it is taken from the pod; if sown at once most of the kernels will germinate the following spring, but if the seed be left for some time before sowing it may take a year longer to germinate. —MAX LEICHTLIN, Baden-Baden.

Agave americana.—Mr. Digmore states (page 13) that the American Aloe "is almost invariably killed in this country in an ordinary winter." This may be the case in Dorsetshire, but it certainly does not hold true of South Devon, where fine examples of the type and of the variegated form have remained unprotected in the open ground for many years and still enjoy the best of health, though they are not planted as recommended by your correspondent "in the side of a perpendicular cliff," but on level or slightly sloping ground. I know of three cases where these Aloes have flowered, and doubtless there have been many more unknown to me. One of the plants that I am acquainted with is a prodigious specimen exceeding in size any of the many thousands I have seen growing wild in the Southern Hemisphere. Its dimensions, which I took last week, are as follows:—Height from ground to point of highest leaf, 11 feet; length of leaf, 9 feet 4 inches; breadth of leaf at base, 1 foot 7 inches; circumference of plant, 41 feet. Every year I have expected its flowering and subsequent death. It has increased slowly in size during the ten years that I have known it, and remains the embodiment of noble immobility and the most striking feature of the little garden in which it stands. The plants which I have alluded to as flowering were far inferior in size to this giant, whose prospective towering bloom-spire should be worth a journey to see. —S. W. FITZHERBERT.

New Pea Edwin Beckett.—There can be no doubt whatever that the new Pea Edwin Beckett, given both an award of merit and a first-class certificate in 1900 by the Royal Horticultural Society, and this season being sent out by the Messrs. Cutbush, Highgate, was one of the surprises of that year. It is a splendid introduction, as when on trial at Chiswick it stood a severe test, the season being a trying one. Edwin Beckett is well named, and it is appropriate that such a good grower's name should be given to such a fine variety. It shows that Mr. Beckett not only produces good vegetables, but takes an interest in raising and improving them also. I consider this Pea a mid-season variety, although the raiser has shown it early. It is a delicious Marrow variety, and will doubtless become a great favourite with exhibitors, but I note its good qualities for home supplies on account of its grand cropping qualities, and I regard it as greatly superior to the Duke of Albany; it crops longer and the quality is better. It is a strong grower—4 feet to 5 feet—and the large pods contain nine to eleven Peas of a deep green colour, with the true Marrowfat flavour so much liked. —G. WYTHES.

Weather in Scotland.—The week ending February 1 was very remarkable, not only for the deepest depression of the thermometer during the winter, on January 31 falling from 20° to 24° of frost in various localities, but also for an abnormally high barometer. In the south-east it ranged from 30.70 inches, while at Aberdeen it was as high as 31.10 inches. In some places the readings have been the highest recorded for forty years, but as late as 1896 readings equally high were noted. Quite a snowstorm opened the week, and we await with much suspense its disappearance to see how the many spring flowers, Snowdrops, Aconites, Hepatica, Iris stylosa, Hellebores, &c., have fared.

Medals offered for seedling Orchids.—We notice in the schedule for 1902 of the Massachusetts Horticultural Society that three prizes, the society's gold, silver, and bronze medals, will be given for the best American seedling Orchid, other than *Cypripedium*, exhibited by the originator, to be accompanied by a coloured picture of the same for the use of the committee. Might not some of our societies at home do likewise? The Orchid is paid but scant attention in the prize schedules of most provincial horticultural societies.

Japan in April.—While England endures very uncertain and treacherous weather, with occasional showers, during April, in Japan it is the most delightful and the best month of the year (I believe there is a difference of just about one month between the English and Japanese climate). We have, in Japan, "February winds, March showers, and April flowers." Of all the flowers that adorn the season in Japan, Cherry blossom is the prettiest and most attractive. Tokio, the capital of Japan, and often called "the Flowery City," presents during the month of April a glorious sight as of one immense cluster of those light pink blossoms. If you ascend a hill that stands at the extreme end of the city, and which forms a part of the famous park of Uyeno, you have a commanding view of the city, thinly covered with clouds of Cherry blossoms swaying to and fro amidst the pleasant breezes of the flowering spring. The chief flowers of the season, besides the Cherry blossoms, are Plum blossoms, the Kaido (*Pyrus spectabilis*), the Yamabuki (*Kerria japonica*), and, later on, Azaleas, Wistarias, Irises, Peonies, and the Lotus. At this time of year the weather is generally very fine, and several garden parties are given by society people, the greatest event of the season being the garden party given at one of the imperial palaces at Tokio, to which only privileged people are invited. [This is an extract from a charming paper upon "Japanese Home Life," by Chozo Koike, M.J.S., Attaché, Imperial Japanese Legation, and printed in the recently published "Transactions of the Japan Society."]

New early Tomato Winter Beauty.—To those who frequently attend the meetings of the Royal Horticultural Society and have seen this variety it may be quite familiar, but many are unable to do so. Most growers are anxious to obtain early Tomatoes, and they should give the new Winter Beauty a trial. I am aware it is called a winter variety, and it is certainly the best for that season I have grown; but my note more concerns its value as a first cropper under glass. When sown in the late autumn or in mid-winter the fruit may be had ripe in May and in quantity. This is a great gain at that season, as both choice vegetables and salads are then scarce. I first saw this remarkable free-fruited Tomato grown by Mr. Mortimer, who is such a good cultivator, and he thought it one of the heaviest croppers he ever had, and at a season when many varieties fail to set freely. It is also quite as valuable for a first crop in the open. Last season we gave it a trial, and it was quite ten days earlier than others planted specially for early supplies. The quality, an important point in all fruits or vegetables, is very good, and the fruits are of the right size, not coarse, and a beautiful colour.—G. WYTHES.

A valuable early Pea—Bountiful.—For the past few years our favourite early Pea has been Bountiful, and, though a round blue-seeded variety, it is much superior to the small round white Peas often grown for the first crop. This variety sown in January under glass and planted out in early March will give good pods late in May, and if sown in the open early in February matures early in June. It is rightly named Bountiful, as it is a remarkable cropper. I first noticed it in the Royal Horticultural Society's gardens at Chiswick in June, 1896, and it was given an award. It is termed a 3 feet to 4 feet variety, but with us rarely exceeds 3 feet, and sown under glass is even shorter. The pods are long, slightly curved, of a rich dark green colour, large for an early Pea, and the flavour is first-rate. I am aware we have no lack of excellent early Peas, and some of the recent introductions are most valuable; but in heavy or wet soils it is not advisable to sow the Marrow varieties too early. The seed at times germinates badly, and such varieties as Bountiful are more trustworthy for a first crop, and, being a distinct advance on the other round-seeded varieties, and having a larger pod with its heavy cropping qualities, it is an acquisition.—G. WYTHES.

Winter Nelis Pear.—It will doubtless come as a surprise to many growers of Pears to learn that the fruit committee of the Royal Horti-

cultural Society did, at the Drill Hall on the 14th ult., award this old and very richly flavoured Pear a first-class certificate almost unanimously. The only objector was not in a minority because he was opposed to the Pear, but on principle objected to the giving of such awards to old varieties. In that objection he is not alone; but it seemed to have been answered when it was said that the passing over of such a delicious Pear as Winter Nelis by the committee to the past reflected on the judgment of previous committees. Certainly it did seem strange that whilst so excellent a Pear, one raised so early in the last century, that as Dr. Hogg tells us, it was introduced here from France so long since as 1818, first-class certificates and awards of merit have been somewhat freely given to varieties that had the merit of being new, but otherwise have attained to very little popularity. It is interesting to note in "The Fruit Manual" that the late Mr. R. D. Blackmore, in whose judgment the late Dr. Hogg seemed to place somewhat excessive confidence, said of Winter Nelis that at Teddington it had rather a flat flavour. That is such an unusual condition of the fruit that it is difficult to understand. Certainly it is a Pear that does best on a wall, but I have seen it fruit freely on a north-east wall at Forde Abbey, and the fruits when ripe possessed delicious flavour. The fruits placed before the fruit committee on the 14th ult. were grown on nursery trees at Langley, thus showing that there are soils and positions in which it will do well as a pyramid. One wonders why it should not in the past never have been anyone's business to present Winter Nelis to the fruit committee for an award. In any case it has one now and deserves it, for it will be grown long after many other Pears are forgotten.—A. D.

Jasminum nudiflorum among Ivy.—Seldom has the winter Jasmine been so fine in bloom through the first half of January as this year. For the last three or four weeks it has been a glorious mass of yellow. The warm days during the beginning of the month developed the flowers astonishingly. To see it at its best it should be planted in large masses, and if intertwined amongst Ivy or Cotoneaster the effect is very pretty. The Ivy, with its green leaves, and the Cotoneaster, bearing numbers of red berries, make an excellent setting. We have them growing between these two plants on the walls of the Abbey, and we allow both to grow freely during the summer. In this way they produce long shoots reaching quite away from the wall. When out of bloom in spring they are cut in close with garden shears. Some Jasmine plants are growing on a rough stone wall, the Ivy being very old, and some eighteen years ago the Jasmine was planted out a foot from the wall. Now it has grown from 18 feet to 20 feet high, and has covered a space 60 feet in length. As I looked on this on several occasions during early January I could not help thinking how many dull spots might be made bright in winter by using such plants.—J. CROOK, *Forde Abbey*.

Rhubarb Prince Albert.—This, in my opinion, is still the earliest Rhubarb, but it is difficult to obtain true. Royal Albert, or Scotch Mammoth as it is sometimes called, is distinct from it, and neither so good nor so early. Prince Albert is rather small, the colour when cooked being deep red, and the flavour delicious. I forced it for a number of years, and by placing the roots in a little leaf-mould in the Mushroom house a fortnight or three weeks before Christmas always ensured good produce. The least warmth starts it into growth, and I have seen it pushing through small mounds of leaves and straw early in the New Year. The late Mr. John Fraser made a speciality of it at the Lea Bridge Nurseries many years ago, but I am afraid the true variety has nearly died out.—J. CRAWFORD.

Winter Pears.—I am in full accord with all that your correspondent "G. W." has to say concerning Nouvelle Fulvie. With regard to Easter Beurré, this variety is unreliable both as to the time when fit for table and its behaviour in certain soils. It is then, as "G. W." describes it, useless. On a warm, deep, rich loam the fruits attain a large size, are quite free from blemish, and good in flavour, but they are just as likely to ripen at

Christmas, when other varieties are generally plentiful, as at their proper season. Glou Morcean has been extremely good this season, the supply having just finished. This is another Pear that does not succeed well in all gardens alike, but where it is a success there is no better variety for use at Christmas and in early January. Where the soil suits it it may be cultivated as an espalier in the open in warm districts, otherwise the protection of a wall is needed. With me the supply of winter Pears will be prolonged for some weeks to come, as we yet have Josephine de Malines, Bergamotte d'Esperen, and Easter Beurré to fall back upon. The fruits of the latter are as yet quite firm. Whether they will keep until the festival after which this Pear is named is extremely doubtful.—A. WARD.

Prunus davidiana.—Some of the many readers of THE GARDEN who take pleasure in early flowers may be interested to know that the white form of *Prunus davidiana* opened its first flower fully on January 18, though this winter is not what I consider a good one for early subjects. The next day several other blooms opened. Up to to-day (20th ult.) the rose-coloured one has not opened, though it will be in bloom shortly. The white one I have here is the fastigate or erect-growing one, and is much prettier in every way than the other, which is apt to assume an untidy appearance if left unpruned, while the fastigate one always looks neat, and is exceedingly pretty when wreathed with its pure white flowers all along its leafless branches. Of course the weather may yet prove unkindly and destroy the open flowers, but there are generally plenty of buds left to open when a more congenial time comes round again.—S. ARNOTT, *Carsehorn, by Dumfries, N.B.*

Green raffia.—The green raffia referred to in the note on page 34 of THE GARDEN can be procured in this country, and I have been using it for some months. It is much better than the uncoloured for most flowers, and if we could have it in a few other shades of green it would be even more useful. It seems to stand the weather well outside, although it loses colour slightly. With this I am sending two short pieces: one has not been used, and the other has been exposed to all weathers since August. It is more expensive than the white, but is a great improvement either for use outside or under glass.—S. ARNOTT, *Carsehorn, by Dumfries, N.B.* [It is a great advantage to be able to have green raffia, especially for tying up pot plants, but, as Mr. Arnott remarks, it would be better if there were a choice of colouring, though we think it would be better still if some general standard colouring were adopted of a more neutral tint. The new raffia, as in the sample sent, is of a particularly disagreeable, hard, rather bright, although deep tone: the colour is so strong that it would quarrel with that of most leaves. When a little faded, as in the other sample, though not so harsh, the colour is still unpleasant. What is wanted is a much more neutral colour, not one that asserts itself in competition with that of leaves. Something just a tone yellower or browner than a Sage leaf gives some idea of what is desired. If the colour were more inoffensive we feel sure the sale of green raffia would be greatly increased. If makers would care to communicate with us we should be glad to advise them as to a suitable colouring.—EDS.]

Viola Blue Bell.—When lecturing at Ealing a few evenings ago on "Floriculture and Florists in the last Fifty Years," in dealing with the developments of the Pansy and Viola, I alluded to the origin of Viola Blue Bell, which, as I have frequently stated, came as a chance seedling in my little garden at West Ealing in 1871, where I do not think any form of Viola had been previously grown. I noticed a plant of close-tufted growth spreading itself; it flowered; I named it Blue Bell on account of its violet-hue shade, and it was distributed in the autumn of 1872. A florist of Isleworth, who was one of the audience at the above lecture, said there was one market grower near him who, at the present time, had from 10,000 to 15,000 plants of Blue Bell, which he grew for the trade and also sent to the markets, where it is in great

demand. I had feared that the rush of doubtful new varieties of late years had thrust my bantling out of cultivation; but when I heard it was being grown by the thousand I wondered if any other variety of *Viola* is so extensively propagated. A few years ago Mr. George Wythes was using it freely as an edging to his flower beds at Syon, and may be doing so still. Three years after I had distributed *Blue Bell* I spent a couple of days at Chatsworth when Mr. Thomas Speed had charge of the gardens there, and in one corner of the grounds he showed me a large patch of *Blue Bell* in fine bloom, and informed me that it gave as much pleasure to the then Duke of Devonshire as did the choicest plant to be found in any of the conservatories. Since then many new varieties of *Violas* have been announced; but where are they? Exhibition *Violas*, as they are termed, are in the main of little value for bedding purposes in so far as I have tested them and seen them tested by others. Some old varieties like *Blue Bell* are still grown for bedding and border purposes, and when one sees them employed, as in the Queen's Park at Wolverhampton, as edgings to huge beds of shrubs, their floral service is unique and past describing. I have read in the pages of *THE GARDEN* flowery descriptions of new varieties of *Violas*, too often, it is to be feared, written up in the interests of one or two raisers, yet when I go into gardens I find Countess of Hopetoun, True Blue, Duchess of Fife, J. B. Riding, Ardwell Gem, Bullion, Blue Gown, Countess of Kintore, and other old standard sorts in use for the summer display. A hot, dry summer destroys not a few of the delicate new varieties.—R. DEAN.

Hardiness of certain shrubs.—Mr. H. R. Dugmore, in his interesting note on the above subject (page 13), does well to emphasise the fact that "there is no definite minimum of temperature which any particular plant can endure." One often hears it said that such and such a plant will not stand more than 5° of frost, but a plant may withstand 15° of frost with impunity on one occasion only to succumb at a later date to a temperature 10° higher, so much depends upon the atmospheric conditions prevailing both immediately before and immediately after the occurrence of frost. When a winter day's heavy rain is followed by a clearing sky and a sharp frost the foliage becomes encased in ice, and if the sun rises on the following morning in a cloudless sky the frozen leaves are seared as with a hot iron. On such an occasion somewhat tender evergreen shrubs are often hopelessly ruined by a few degrees of frost, whereas when the weather is dry and the sun is hidden it is astonishing the amount of cold they will endure with equanimity. A striking instance of the latter case occurred during the past November, when South Devon was visited by a frost whose severity was almost unexampled in the locality so early in the winter. In a garden in the neighbourhood of Plympton two thermometers placed 1 foot above the open ground, about 200 yards apart, showed respectively 20° and 21° of frost, but the damage done was infinitesimal. The foliage of a few shrubby *Veronicas* showed the greatest amount of injury, flagging for a week or so, but eventually recovering almost entirely. Bush *Loquats* in the open were absolutely unharmed, as were *Camellias*, which by the way are harder than *Laurels*, and the youngest leaves of *Clethra arborea* growing against a wall were only a little browned, while a large plant of *Solanum jasminoides* growing over a dome-shaped trellis on a lawn only evidenced the effects of the frost in the blackening of the tips of its new growth. This frost lasted for five nights in a lesser degree of intensity, but the foliage was absolutely dry and the days were sunless during its continuance. In another garden in the neighbourhood 19° of frost were registered. These readings were taken with carefully tested thermometers.—S. W. FITZGERBERT.

New Potato Carltonian.—There can be no question that any new Potato that comes through the severe trials at Chiswick is worth a note. Although we have no lack of varieties, it is well to point out the merits of the new ones. The new *Carltonian* was raised in the North of

England, near Penrith, and certainly will become a great favourite when known. The raiser kindly gave me a few sets for trial, and I was much pleased with its superior quality. The vegetable committee at Chiswick during the last season adopted a new plan, and I think a good one, that was to test late Potatoes (in winter) by cooking, and *Carltonian* came out with high honours. It had previously received three marks for cropping, and was free from disease. The Messrs. Cutbush, who are introducing this variety, are to be congratulated in having such a good cooking Potato to add to their list. The tubers keep a long time, are not coarse, but shapely, with few eyes, nearly pebble-shaped, a few inclined to be more like the fluke, and the flavour—the cardinal point—is all one can desire, whilst the flesh is floury.—G. W.

BRITISH HOMES AND GARDENS.

OTTON HALL, TADCASTER

UNTIL quite recently this had long been the residence of the Misses Harris. In consequence of the death of one of them the estate has changed hands, the new owner being Mrs. Oliver, late of Bolton Lodge, Bolton Percy, Yorks, a member of the Yorkshire family of Ramsdens, who, as is well known, have for a long time taken a keen interest in horticulture generally. Mr. Croft, gardener for the Misses Harris and their parents for over forty-five years, has retired on a well-earned annuity. The glass erections at Otton are fairly extensive for the size of the place. There are three vineries, two Peach houses, a large lean-to greenhouse, a good-sized plant stove, Cucumber and Melon house, and a small span used for growing Orchids. Amongst the small collection of the latter are several plants of *Cattleyas* in variety, which Mr. Croft has had under his care for fully thirty-five years. I well remember in November, about twenty years ago, seeing for the first time two large plants of *Cattleya labiata* (true) in full flower. There were fifteen flowers open; this was when *C. labiata* (true) was very scarce in the country.

The treatment given to the Orchids fully bears out what some modern Orchid growers assert, viz., the desirability of annually cutting away the back leafless pseudo-bulbs when the plants are repotted. The long vinery is somewhat unusual in its structure. It is a lean-to, with a steep pitch, the height at the back being fully 12 feet with a width of 9 feet, and 3 feet from the ground level at the front. The Vines are trained against the back wall, and until a few years ago three Vines filled the whole house, which is 90 feet long. I have seen some crops of really good fruit in this house from time to time. Along the front were plunged a fine lot of pot Plums in variety, which usually carried fine crops of fruit. Tomatoes grown as cordons here and there were perhaps the most fruitful I have yet seen. I have often remarked that for amateurs who have a bare wall this is the most useful form of structure they could have if they wished to grow fruit and flowers in one house. The Peach houses are lean-to structures, with a curvilinear trellis on the front and standard-trained trees on the back wall. A variety named *Early Victoria* nearly fills the front trellis in the early division. It is a very fine early Peach, but is not grown so much as its merits deserve. I believe it was sent out by the late Mr. T. Rivers. It is not catalogued by many fruit tree growers. The true variety is worth having. *Bellegarde* and *Grosse Mignonne* were the best in the later division.

I ought to mention that, like most of the older gardeners, Mr. Croft was firm in his belief that for Grapes ripening from June onwards well-drained outside borders raised somewhat above the surface of the surrounding soil were far the best in the long run. The kitchen garden was a model of neatness and good culture. The surround-

ing walls are well furnished with good bearing trees of Pears, Plums, and Apricots. Peaches are not largely grown outside.

The enclosed grounds of some six or eight acres are particularly interesting to all lovers of outdoor gardening whose tastes are of catholic character. There are fine specimens of indigenous trees and shrubs, some very good conifers, including a fine Lebanon Cedar and a massive spreading Yew with a circumference of over 70 yards. There are many beds bright both in spring and autumn. *Begonias* in particular were very well grown for this purpose. There are two small rock gardens, one well furnished with a select collection of alpine plants, and the other with the choicer hardy Ferns and other shade-loving plants.

Otton is a fair type of a well-arranged moderate-sized English garden. There may be a difference of opinion as to the ultimate success or otherwise of ladies taking up horticulture as a livelihood, but there can be no doubt that amongst the most interesting gardens in the country are those owned by ladies who take a personal interest in them. Mrs. Oliver's gardens at Bolton Lodge, while comparatively small, contain a most interesting collection of hardy plants. Mr. T. Marsh, who has long assisted at Otton, is engaged to succeed Mr. Croft as head gardener. Besides his duties as gardener Mr. Croft managed the estate generally.

Grimston, Tadcaster.

H. J. CLAYTON.

RIVIERA NOTES.

THIS ideally fine season has brought out several good things, notably *Bignonia venusta*, whose long sprays with clustering orange flowers of most brilliant hue remind one of Madeira or Algiers, where the *Bougainvillea* contrasts so audaciously with it. It is to be hoped gardeners on this coast will plant it freely. The Japanese *Musa Basjoo*, which the French simply call *M. japonica*, shows its superior hardiness for winter gardening by not only blossoming in winter, but by setting its fruits freely as if there were no long winter nights to check its growth. The tenderer *M. Cavendishii* is content if it escapes being injured by cold, and does not make any growth during midwinter.

Centaura depressa is so good a winter bloomer, and its blue so rich in tone, that I wonder it has not superseded the more straggling *C. Cyanus* in England. Its blooms are so like the common blue Cornflowers that a casual observer would only remark what capital blue Cornflowers those are; but it is really a better and more lasting flower of a dwarfer habit.

St. Antoine Strawberry has shown itself a step in advance this season, for its fruits in December were of good size and flavour, but the secondary berries are small, so that to make a dish of even sized fruit a large number of plants is required. As its spring flower buds are showing white by mid-January in the open air it would prove a very early cropper in spring, with a little protection in case of a cold night or severe rainfall.

That unfortunately named *Rose La France* de 1889 is in great beauty this winter. I suppose it must have been discarded in England on account of its tenderness, but under glass I should think it might be superior to General Jacqueminot for winter flowering. At any rate it is worth a trial, for its blooms at this season are most brilliant, of large size, and delicious perfume; in fact, it stands alone as a red winter Rose and yet not a Tea Rose. One great peculiarity shown here is that it gives a big flower at the end of its long autumn shoots, and then proceeds to flower down the stem by degrees so that there is a steady sequence of blossom. There are two *Carnation* shows announced shortly, one will take place

at Nice on February 14, 15, and 16, the later one will be held at Cannes in March, on the 6th to the 10th I understand. The cultivation of the tree Carnation at Antibes, Villefranche, and Nice is constantly extending, and the practise of raising the plants from seed has resulted in greatly improved strains. When one sees a breadth of some old and well known variety, such as Alegatière, its inferiority to the seedlings, which are so constant to type and yet so vigorous, is most convincing.

There are some happy combinations to be seen now and then this year. A group of tall white Callas, golden *Linum trigynum* weighed down with blossom, and a good breadth of the pretty grey-blue *Primula sinensis* now so much grown, is just the thing for a shaded and sheltered corner where the sun cannot scorch the delicate colours. The more recent developments of *P. sinensis stellata* also are very good garden plants; they are so free and so hardy, but the pride of the January garden this year

situations. *Anigozanthus*, *Antholyza*, and *Watsonia* spread themselves among the grass in places which are not often disturbed, and form colonies of bulbs. The finest variety of *Watsonia* is *W. Ardernei alba*, a very beautiful plant. I received a few bulbs from South Africa a few years ago; they increased rapidly and seeded so that I have a large quantity of them. The photograph represents a plant which bloomed last year bearing about 300 flowers.

Bulbous Irises do well; one of the finest is *Iris tingitana* from North Africa, flowering in January and February, but only about one bulb blooms out of five. I have raised quantities of seedlings, but two or three years must elapse before the question can be settled as to whether the European seedlings are an improvement as regards flowering. *Iris Boissieri* is a beautiful little Iris discovered by me in 1886 in the mountains of Northern Portugal, but it does not seem to flourish near the sea coast. Professor Sir Michael Foster appears to have had the same experience with it at Shelford;

it grows naturally in a mixture of decayed Heather and granite sand at an altitude of 3,000 feet to 4,000 feet. *Iris filifolia*, *I. lusitana*, *I. Sisyrinchium*, the Spanish Iris, and others grow wild in the country, and some of them are grown in gardens. *Iris stylosa* also flourishes, but a field of the Japanese *Iris Kämpferi* grown in sunk beds and well flooded in summer is a sight to be remembered. *Leucojum trichophyllum* in April and *Acis autumnalis* in October are delicate-looking little gems, a field of the former with occasional scarlet Poppies formed one of the prettiest sights I ever saw; they were growing in a very sandy soil surrounded by Pine trees (*Pinus maritimus*), and near them were some *Trichonema clusianum*, with their pale purple

cups, yellow at the base, and in a damp corner several species of ground Orchids, principally the Bee Orchis. BARON DE SOUTELLINHO.

Entre Quintas, Portugal.

ROSA BRACTEATA.

(THE MACARTNEY ROSE.)

INTRODUCED from China in 1793 by Lord Macartney—from whom it derived its popular name—this Rose has never become common in gardens. This is owing mainly to its tenderness, for in most parts of this country it will not thrive unless it has the protection of a wall. Nor have a great number of varieties been raised from it, as has been the case with *R. indica*, which, although a tender plant in itself, is the parent of hundreds of varieties that beautify our gardens. Of the Macartney Roses only two or three are offered in catalogues, and only one of them—*Maria Leonida*—has acquired any degree of popularity.

Rosa bracteata itself is a free-growing bush

of rambling habit; the branches, however, are stout and furnished with an abundance of evergreen foliage, which is not only beautiful because of its luxuriance, but also because of its rich green colour and exceedingly lustrous surface. Each leaf consists of five or seven leaflets, the lowest pair being very close to the base of the stalk, which, like the young wood, is covered with a brown wool. The specific name refers to the large bracts that surround the base of the calyx. The sweet-scented flowers are single, pure white, and 4 inches across, the five petals being broad and full and notched at the outer margin. The stamens are very numerous, and form a conspicuous yellow cluster in the centre of the flower. The variety *Maria Leonida* is a vigorous rambling Rose, with creamy white moderately double flowers, the inner petals having a rosy tinge. W. J. BEAN.

INSECT PESTS AND FRIENDS.

AMERICAN BLIGHT.

(*SCHIZONEURA LANIGERA*.)

AMERICAN BLIGHT belongs to the destructive family of aphides, and is one of the worst pests that attack our Apple trees. Fortunately, its presence is generally very apparent, for the insects are clothed with a quantity of cotton-like substance, so that when, as is usually the case, a number of these aphides are congregated together they seem to be covered with cotton-wool and are easily detected. This white fibrous material was supposed to be of a waxy nature, but it has recently been proved to be more of the nature of silk. Like other aphides they increase with great rapidity, so that it is very important as soon as any are seen on a tree to take steps to eradicate them as quickly as possible. The female usually chooses some crack or other inequality in the bark in which to bring up her family. As soon as the young begin to feed, which they do by thrusting their probosces into the bough or shoot and sucking out the sap, an unhealthy growth of the part results, the bark swells and forms knob-like projections or warts, and the flow of sap to other parts of the shoot is much interfered with and the latter does not grow properly. Young trees when badly attacked are sometimes quite unable to bear this strain on their system and die. When this is the case it shows great carelessness on the part of the grower, for it is by no means a difficult pest to deal with on young trees if taken in hand at once. Before the colonies have had time to increase or to do much damage to the bark they may easily be destroyed by dipping a good-sized camel's hair brush into methylated spirits of wine and dabbing the insects with it until they are thoroughly wetted. This kills them almost immediately. Paraffin oil, if used in the same way, would have the same effect, but if the shoots are very tender might injure them. When the insects have got a good hold on older branches they are much more difficult to destroy, as the rough bark in places shelters them, and when this is the case some sacks or cloths of some kind should be laid round the base of the stems on the ground, and the trees should be scraped to remove the bark which may shelter the insects. What is scraped off will be caught on the sacks, &c., and should be burnt or otherwise destroyed. It is well to wet the part that is to be scraped with soap-suds before commencing the operation, so that nothing that is removed may be blown away. The part where the insects are should then be scrubbed with a stiffish brush dipped in a thickish solution of paraffin emulsion, or a mixture of quassia extract, tobacco water, and soft soap. These insecticides should be well worked into any cracks or crevices in which the insects may be harbouring. A good



WATSONIA ARDERNEI ALBA IN A PORTUGUESE GARDEN.

(From a photograph by Mr. Roger de Coverley.)

in my eyes is the combination of the big bushes of scarlet *Salvia gesneriflora*, and the still more luxuriant and tall bushes of the yellow *Cassia tomentosa* at their feet, with some bold clumps of the fine purple flowered *Iris germanica*, whose flowers last for days at this season, even on the sunny banks.

E. H. WOODALL.

A PORTUGUESE GARDEN.—III.

THE soil and climate of Oporto are admirably adapted for bulbous plants, especially for the South African species. *Ixias*, *Sparaxis*, *Tritomas*, *Freesias*, and *Gladioli* seed freely and soon choke up a garden, so we have constantly to dig up the beds in summer, replant the best bulbs, and burn the rest. *Amaryllis Belladonna* is naturalised, and as soon as the first autumn rains fall, about the end of September, my wood is brilliant with thousands of their pink blooms; they seed well, but increase chiefly by offsets. *Nerine sarniensis* also thrives in sunny

remedy when parts of a tree are attacked which cannot be easily reached is spraying the boughs, &c. thoroughly with a caustic wash, which will kill all insect life with which it comes in contact.

The wash may be made as follows: Dissolve 1lb. of caustic soda in eight gallons of water, then add $\frac{3}{4}$ lb. of carbonate of potash (pearlash); stir until all is dissolved, then add nine gallons of water, and last of all add 10oz. of soft soap that has been dissolved in a little hot water. When all is thoroughly mixed it is ready for use. This mixture is very caustic, and should not be allowed to get on the clothes or skin if possible; it is as well when using it to wear very old clothes, and if any gets on the skin to wipe it off at once. A calm day should be chosen to prevent the mixture being blown about. There is no fear of the trees being in any way injured if it is used before the buds begin to open in the spring, and it will destroy all moss or lichen on the trees. These aphides at times attack the roots of the trees. When this is the case the roots for a few inches below the surface should be painted with one of the insecticides mentioned above, and covered in again with fresh earth.

The American blight when full grown are sometimes a quarter of an inch in length. Some are winged, but the majority are not; they are of a slaty leaden black or dark brown in colour; they have very long probosces with which they draw off the juices of the trees. The white woolly substance with which their bodies are partially covered is principally secreted by the posterior half. The young very much resemble their mothers except in size, and they are never winged.

G. S. S.

B. GLOIRE DE LORRAINE.

I AM sending a photograph of our Begonia Gloire de Lorraine of which we make a speciality. A group at the Drill Hall on November 26 gained a silver-gilt Banksian medal. Most of the plants were tied out specimens, but one of our favourite methods of growing them is by suspending the plants from the roof of the house, allowing them to fall naturally over the sides of the pots;

grown this way they form most beautiful specimens, and show the nature of the plant to advantage.

WILLIAM BEALE.

Hayes Place Gardens, Hayes, Kent.

NOTES ON HARDY PLANTS

WHITE PINKS.

ON page 42 is an illustration of the common and smooth-edged white Pink, and the appended note says that it was raised by an amateur, but was lost during a change of gardens. It appears to me identical with Albino, sent out, I believe, by Messrs. Clibran some few years ago, but not as yet so well known as it deserves to be. This is a trifle later than the old white, a flower very pure and regular in outline and does not split, but holds out well. I have grown it for some years, and used it in several ways in the flower garden, a favourite device being a groundwork of the Pink associated with clumps of *Geum coccineum* fl.-pl. or scarlet Pentstemons.

SISYRINCHIUM STRIATUM.

WHEN one considers how easily raised this plant is, and that it will adapt itself to almost any soil and situation, it may safely be regarded as extremely useful. It is a plant for odd corners and poor bits of border and slopes where the majority of things simply exist. It will thrive, flower freely, and last out well, and although individual blooms are not very striking, the quantity and length of the flower spikes and the profusion of flowers are such as to make it well worth a place in the situations named. It forms a good companion to some of the common *Verbascum*s and *Linaria*s.

PENTSTEMON GLOXINIOIDES.

A PACKET of seed of the Pentstemon known under this name should be sown immediately, and if the seedlings are grown on quickly from the time they are large enough to handle good plants will be available in May that will flower early and continue in bloom the greater part of the summer.

It is best treated as an annual, although if anything exceptionally good is noticeable in the seedlings a batch of cuttings may be put in late in the season for another year's display. In this way distinct shades are, of course, obtained, and the plants when in bold clumps on a carpet of *Violas* make a charming bed.

E. BURRELL.

JEFFERSONIA DIPHYLLO.

THIS rare hardy spring-flowering plant is seldom seen, although not many years ago it was quite plentiful. The cause of its scarcity is no doubt its slow increase and it is also very particular as to position. One may grow it well in certain positions and without the slightest trouble, while when removed elsewhere it will refuse to thrive. I well remember some fine specimens in the Hale Farm Nursery, Rockery, Tottenham, which whenever taken up and divided seemed to dwindle away. Some of the plants referred to were grown in a fairly moist but well-drained, half-shady position, near overhanging shrubs, in peat, and some in loam, and during the winter they had a natural cover of leaves that fell from trees growing near. *Jeffersonia diphylla* is a monotypic plant of the natural order *Berberideae*. It is perennial, having a fleshy, fibrous root-stock, and producing in the early spring several very handsome long-stalked leaves, divided into two ovate glaucous green leaflets. The scapes are about 9 inches long and naked, one flowered with very pretty white flowers. It usually blooms in April.

R.

SOLDANELLAS.

THESE delightful little alpine can often be seen in higher altitudes when in May or June through the slowly disappearing snow they push their heads of flowers, while in places where the snow is still too thick for vegetation they are perfectly dormant, and one has to look very closely to notice the tiny flower buds, but once summer sets in the flowers develop rapidly. *Soldanellas* usually grow in boggy places, amongst grass on alpine meadows, but that does not say they cannot be acclimatised and grown in less damp positions; in fact, my best plants were in pots. The larger-growing kinds, such as *S. alpina* and the taller-growing large-leaved *S. montana* are best grown at the foot of the rock garden in peaty soil from mountainous districts. In England, with its moist mild winters, *Soldanellas*, which flower on the Alps in May or June, in less sunny snow-covered positions sometimes not before the end of July, bloom as early as March, or, with a preceding hot dry summer and damp autumn, as early as February. *Soldanellas* easily intercross in the wild state, and by taking the more distinct types, such as *S. alpina*, *S. montana*, *S. minima*, and *S. pusilla* one may easily pick out a number of intermediate forms. The largest growing and the one most difficult to procure true is *S. montana*; it is perennial, with fibry roots, evergreen, leathery, round or kidney-shaped leaves, and grows in tufts not over 9 inches to 12 inches in height. The lovely bell-shaped beautifully-fringed flowers are produced in slender scapes, sometimes solitary, of a distinct lilac-purple colour. *S. alpina* is slightly dwarfer, has smaller leaves and slightly smaller flowers. *S. pusilla* is a handsome compact species, the leaves heart or kidney-shaped, and few flowered with lilac-blue or lilac flowers. A very rare form is *S. pusilla alba*. Although usually considered rare, I found it some years ago on my first expedition in the Dolomites. It commenced raining the morning I started with a guide from an inn where I spent the previous night, and never



A HOUSEFUL OF BEGONIA GLOIRE DE LORRAINE IN HAYES PLACE GARDENS, KENT.

left off till midday, snowing, of course, higher up. However, we pushed on, snow laying thickly on the ground everywhere, and, although it was the end of June, no plants could be seen. Among others I was, however, able to collect, on the slopes where snow had not accumulated, *Soldanella pusilla alba* growing in batches of more than 100 at a time, evidently seedlings, and I took only the smaller plants, leaving the larger ones undisturbed. The same day I found also the rare *Anemone vernalis rosea*, with beautiful bright rosy flowers. *S. minima* is the smallest, growing only about 1 inch to 1½ inches in height, with small roundish leaves and numerous small lilac, rarely white, flowers. It is the highest alpine form, and grows on the margin of glaciers and near eternal snow.

G. REUTH.

CLEMATIS PANICULATA.

THIS is so important a garden plant that it is a matter for wonder that it is not more generally known. Its merits may be best described by saying that it does even better for October what *C. Flammula* does for September.

It much resembles *C. Flammula*, but is in every way a stouter and more vigorous grower. It may not be a plant for the cold Midlands, but anywhere south of London it is admirable. When once established the only trouble is its extreme vigour of growth. Unless it is somewhere where it may spread all round, as over an arbour or a mass of stout branching spray, it must be severely thinned in early spring or its multitude of branches become almost unmanageable. It is a native of Japan.

STERNBERGIA FISCHERIANA.

THE early-flowering form of this plant, originally sent by M. Siehe to this country, has excited a good deal of interest lately. It was first sent as a "species near *fischeriana*," but a close analysis of the flower reveals no specific or even varietal character distinct from the type plant. It is slightly narrower in the petal, an undesirable characteristic in the poorest of all *Sternbergias* known to gardeners. The one trait in its character one could welcome is that of flowering in the depth of winter; its powers of endurance are really wonderful, 12° of frost and keen cutting winds having no effect upon it. I do not think the plant sufficiently distinct from *fischeriana* to deserve a name, unless one called it var. *præcox*, thus indicating its only apparent characteristic.

GEORGE B. MALLET.

SANGUINARIA CANADENSIS.

THE Blood-root is one of the most interesting as well as pretty and distinct of the *Papaveraceæ*, with every single part of the plant singular or uncommon. Its rhizomatous root-stock is fleshy, full of acrid orange-coloured juice, the colour of the root deep or coral red, and on this account it is commonly called Blood-root. As early as February the plant is very active, producing one or more short petioled, palmate-lobed leaves, but almost before their unfolding the flowers are ready to expand, the sepals falling with the opening of the flower, which is supported on short, naked scapes; they are pure white or flesh-coloured. There are only two forms of *S. canadensis*—the type and another called *S. canadensis* var. *stellata*, the difference being that the latter has many more petals, which are also slightly narrower, giving the flower a fuller semi-double appearance, and lasting longer in bloom. Both forms are easily grown in a light sandy, loamy, or peaty soil, partially shaded from hot sun and sheltered from cold, dry winds. The best time for planting is from October until February, and the roots being inexpensive and easily procurable the Blood-root ought to be much used in the wild garden or for spring bedding.

G. R.

IXIOLIRIONS.

THE dainty *Ixiolirions*, a race of slender-growing, blue-flowered bulbous plants from the mountains of Asia Minor, are just the type of plant one can

recommend for planting in the rock garden, either in patches containing several or inserted here and there, but with a lavish hand, among the low-growing alpines and other plants at home there.

The oldest species, *I. montanum* (syn. *I. Pallasi*), grows 1½ feet high, and bears four to six flowers in a very loose umbel, or sometimes distinctly panicled. They are much like a giant Hyacinth in shape, but are of thinner texture; they span 1½ inches across, and their colour is that bright tint of blue peculiar to the *Chionodoxas*. The var. *tataricum* has smaller and more slender flowers, coloured true blue, whilst *kolpakowskyanum*, a Turkestan species from high elevations, is smaller still, the flowers scarcely exceeding 1 inch in length and span, and are arranged closely together as in *Brodiaea*. The best of all is, doubtless, *montanum*, a plant whose graceful habit and handsome, nodding, bright blue flowers of comparative large size please everyone. It is quite easy to grow and will thrive in any sunny situation. The bulbs require to be planted fully 4 inches deep, and the soil above

them should be made quite firm, for these small bulbs emit powerful Iris-like roots in great numbers, and it is no uncommon thing to find the bulbs thrust several inches out of the soil by their roots if planted shallow. The plants show a natural tendency to bury their bulbs deeply by means of "droppers" or by contractile roots, a freak more or less characteristic of bulbs from the East, rendered necessary, doubtless, as a means of protection from the influence of the climatic extremes they have to endure in a wild state. Some doubts have gained currency as to the hardihood of this plant, but it is really as hardy as a Snowdrop and can be raised from seeds in the open; in fact, they will come up of their own accord around adult plants. If the inflorescence is cut to the ground level the bulbs will perish, and I think the loss on this account has been attributed to lack of hardihood. As pot plants for the cool greenhouse *Ixiolirions* are of the greatest possible use: they may be treated like *Freesias*, and are capable of being forced into flower months before the proper season of flowering (May and June), and the plants grow taller and produce much finer flowers under glass.

GEORGE B. MALLET.

THE LEUCOJUMS.

SOME years ago when living in a sheltered valley in the neighbourhood of Torquay, where the soil was a heavy red loam inclining to clay, I possessed several clumps of the Summer Snowflake (*Leucojum aestivum*) which persistently refused to flower. *L. vernum* in the same garden flowered freely. I



CLEMATIS PANICULATA.

mentioned this fact in the pages of THE GARDEN at the time, and received some welcome hints from Mr. S. Arnott and Mr. E. H. Jenkins. However, in spite of replanting the bulbs in light compost in the sunniest position available, not more than a stray flower-scape here and there was thrown up. I was at that time under the impression that the damp retentive soil was responsible for their failure to bloom, but since then I have had occasion to reject this theory, as I have met with plants flowering well in damp meadows and in heavy soil on river banks, where they were often covered by the water, and consequently arrived at the conclusion that I had got hold of a shy-blooming strain. Mr. Arnott kindly made me a present of some bulbs, and I sent him a few of mine to try, but I cannot remember to have heard whether they eventually proved more floriferous with him than with me. The bulbs I received from him flowered fairly the second season after planting. In the course of my visits to gardens in the south-west I met with an early-flowering form of *L. aestivum* which bloomed at the same time as *L. vernum*, the two in the same garden always flowering together. This fact drew attention to in THE GARDEN at the time. When I decided to leave Torquay I sent some of my original Snowflakes and Mr. Arnott's to a garden about a quarter of a mile distant, where they were planted in alternate rows. In the opening week of the present year I visited this garden, and found to my surprise that my hitherto flowerless plants were in full leaf and bloom, while Mr. Arnott's by their side were only showing about 4 inches of leafage above the soil.

I am quite at a loss to account for this extraordinary behaviour. If all the bulbs had exhibited this early growth and flowering one would have been inclined to attribute it to the past hot summer, but only one strain, namely, that which for years refused to flower, was affected. I shall remove both to my new garden during the current year and shall watch their future with interest.

S. W. FITZHERBERT.

NARCISSUS SULPHUR PHŒNIX.

Of the three well-known varieties of Double Incomparabilis Daffodils, the Sulphur Phœnix is by far the best. The doubling is generally more evenly distributed, making a better shaped flower, and the colour, something between cream and sulphur, has a delightful quality. It is also one of the handsomest Daffodils for cutting; a few blooms are excellent arranged with red-tinted Berberis branches or something stiff that will help to support them, for the stems are long and none too stiff, and the heads heavy. For the same reason it is a good plan to grow them, as shown in the illustration, between rows of Peonies, that not only help to support them, but whose young reddish-tinted foliage makes a beautiful colour harmony with the delicate warmth of the Daffodil flowers.

VERONICA. IV.

SOME of the hardy species with axillary flower spikes next claim our notice. Of these

V. Teucrium is the most important and shows the widest variations. Whatever the *Teucrium* of the ancients may have been, the name was adopted by Clusius for a genus including several of the species we are about to describe. Of these he figures three varieties on pages 349 and 350 of his "History of Rare Plants." The type of *V. Teucrium* is about 18 inches high with stiff wiry stems spreading into a dense upright bush. Though the spikes of flowers on this are not, botanically speaking, terminal, they stand out far beyond the leaves and produce a profusion of bright blue flowers lasting all through July. Like most Veronics they do best in a dry chalky soil or one con-

taining abundance of lime, gravel, and old mortar; but the colour of the flower varies somewhat in the same soil, and as a hundred seedlings may easily be raised in a square yard of waste ground, and flower within a year of coming up, a selection may soon be made, and the best of them easily increased by division. The plants vary much in stature, but varieties with white or pink flowers, so common in some species of the genus, I have never seen or heard of in this. The largest form now generally included in *V. Teucrium* was formerly made a distinct species called *V. latifolia*. The colour of its flowers is generally first-rate, but its habit rather untidy, the stems growing 2 feet long, and being doubtful whether to

far more delicate than the normal blue. Like the type of *Teucrium* var. *prostrata* scatters its seedlings freely, out of which the best must be selected for the rockery. They vary not only in the brightness of their blue, but in their free habit of flowering. There would be no difficulty in accepting these three species of *Teucrium* were it not that in gardens so many intermediate forms come. Twenty years ago I was at Kew in July and I saw in one bed about twenty named varieties of *V. Teucrium* connecting the largest and the smallest forms. I have had a very pretty little dwarf not unlike var. *prostrata* but more upright and botanically distinct, named *V. taurica*, a variety of *V. orientalis*. It was worth keeping as a rock

plant, but I am afraid it has died from neglect. Another name we often see is *V. austriaca*. I took some pains to verify this name and apply it to a small very bushy kind, not more than 6 inches or 8 inches high, with abundance of dark blue flowers and smaller leaves than *V. Teucrium*. *V. officinalis* with grey flowers in July is a common wild native. The name *officinalis*, which occurs in

several genera, but not earlier I think than Linnaeus, is intended to denote the genuine species which was used in the officina, the factory of medicines, or the shop in which they were sold; for the word bears both senses in classical Latin, and is often found in herbals of the sixteenth century. The species is mentioned here because a dwarf form with pink flowers is much grown at Edge on the margins of the gravel walks. It is not more than 3 inches high and flowers profusely in June. *V. chamaedrys*, the Germander Speedwell, is too poetical a flower to omit. It has been recommended sometimes as a carpeting surface for bulbs which flower without leaves, but I have found it grow too coarse in garden soil, and the heavenly blue which is so attractive in dry sunny banks deteriorates in gardens. It may be remarked that the name Germander which came into England from the French Germandrée, is a corruption of the Greek and Latin word

Chamaedrys, which means ground Oak. Another native species is called in English works on botany *V. saxatilis*, but "Index Kewensis" gives preference to the name *V. fruticulosa*, which that authority says is a synonym. It has a neat dwarf shrubby growth, 3 inches or 4 inches high, and large blue flowers in July; a variety with clear pink flowers is called var. *Grievi*, and another with a dark purple centre is named var. *balfouriana*. All three deserve a good place amongst the choicest alpine and must be guarded from smothering. *V. caucasica* is worth growing, is about 6 inches high, spreading moderately underground. Its large flowers, which come



NARCISSUS INCOMPARABILIS SULPHUR PHŒNIX.
(Photographed by Miss Willmott.)

grow erect or prostrate. The leaves are broad and large and deeply indented. A variety smaller than the type, but generally included in the species, is called var. *prostrata*, often sold in nurseries by the unauthorised name of *V. rupestris*. Godron, in his "Flore de France," describes both this and *latifolia* as distinct species, saying that it often varies with white or pink flowers, though the two others never do. But I wish I could see or hear of a pink flowered *V. prostrata*. A white one I have seen, and only once, and that I found on the mountain side about a mile from Gavarnie in the Pyrenees. I brought it home and tried to raise a stock, but though I still keep it, it is

early in June, are like those of *V. gentianoides*; they are borne on short axillary branches covered with pinnately cut leaves. *V. pectinata*, a native of South-Eastern Europe, also flowers early in June. It has large long prostrate stems, less leafy than those of *V. Chamædrys* and bears flowers as large as that species, but of a darker blue. There is a variety with dark rose-coloured flowers. This species is not common in gardens but is worth growing.

V. satureioides should be in every garden and on every rockery. It is a species from Dalmatia, covered all winter with abundant shoots of bright evergreen nearly round leaves; the plant does not rise more than 3 inches from the ground, and flowers in April with neat tufts of lavender-blue. It spreads moderately, rooting as it runs, but it is most easily confined within prescribed limits.

The minute *V. repens* with large flowers on the ground and leaves like those of *Houstonia* would be excellent on the side of a damp gravel walk if it did not get so full of tiny weeds, especially attracting its near relation *V. serpyllifolia*, which is possibly sown by it. I never could keep it in proper form for long. I have omitted in these notes two or three kinds which I like, but do not know their names, especially two flowering in May with lavender-coloured flowers. If I could get them named they would deserve a note to themselves.

Edge Hall, Malpas. C. WOLLEY DOD.

AN ARTIST'S NOTE-BOOK.

IRIS TAURI.

IRIS TAURI of Siehe, a new Iris of the Persica group introduced last year, and which received an award of merit from the Floral Committee of the Royal Horticultural Society recently, shows a surprising variation in form, colour, and degree of fragrance, inasmuch that this name must be used to designate a series of forms, some of which run close to *I. Heldreichi* in colour and form, whilst others show a distinct leaning to *I. persica* in the very close connivance of the style branches and falls, and in the rigidly triangular outline of the flower. They are all distinct from other species, in being of some shade of violet or violet-purple; the under surface of the falls—most conspicuous in a bud state—is coloured bronze or old gold as in *I. bakeriana*, a marked feathering of gold appearing on the somewhat compressed side lobes of the falls, whilst in a few gloriously coloured flowers a broad margin of gold surrounds the violet patch on the blade. I can distinguish eight distinct forms in the batch of flowers now before me, some of which show the exquisite blend of colour so characteristic of *I. persica*, but in a combination of violet and gold, whilst others approach the bolder *I. Heldreichi* in breadth of petal and the deflexed blades of the falls, also in a pale purple or blue colouration at the fork of the style branches. In the matter of culture, *I. Tauri* is just as easily suited as the now well-known *I. Heldreichi*. A warm position on a rockery or raised border, at some distance from strong-growing plants likely to overtop them, and a root run of light soil freely charged with broken bricks or sandstone will prove

best. All Irises of the Persica group (well characterised by their two ranked leaves) produce thick, fleshy, permanent roots, which serve as storehouses of food. These penetrate unusually deep—in some instances quite 1 foot—hence the need of an open, well-drained soil likely to carry away water freely during the resting period and in late winter when they start to grow.

GEORGE B. MALLETT.

LILY NOTES.

THE recently issued number of the *Journal of the Royal Horticultural Society*, containing as it does a full report of the papers read at the Lily conference at Chiswick on July 16, is of particular interest to the many admirers of this lovely class

colour of this variety is never so yellow in the wild state as it seems to become when cultivated in England."

Mr. Baker in his paper also refers to several varieties of *L. Brownii*, but what is of special interest to me is the fact that as far as my observation goes all the imported forms (and I have seen a good many) are quite distinct from the *L. Brownii* of the Dutch growers. The origin of the last-named is to a great extent unknown. It appears to have been introduced into England, and first flowered with Brown, a nurseryman at Slough, in 1837. Three bulbs were sold to M. Mieliez, nurseryman at Esquermes, near Lille, and from thence it gradually made its way on the Continent. The sandy soils of Holland seem to have just fulfilled its requirements, and splendid bulbs are sent therefrom to this country in considerable numbers every year. It certainly shows no sign of dying out (in Holland, at least), a charge which is often brought against many Lilies. This, then, must be regarded as the true *L. Brownii*, which I have never seen imported from China or Japan. A characteristic little woodcut of the old *L. Brownii* is shown on page 406 of the journal above referred to. Concerning the statement that I have never seen the true *L. Brownii* either from China or Japan, exception may perhaps be taken on the ground that the bulbs therefrom are often sold at the London auction rooms. True, they are frequently offered under the name of *L. Brownii*, but they are really *L. odorum*, that differs therefrom in several well-marked particulars.

Mr. Baker in his valuable paper says concerning *L. Lowii*:—"After studying the fine series of specimens collected by Dr. Henry and Mr. W. Hancock, F.L.S., in the province of Yunnan, Western China, I do not think this can be kept up as distinct from *L. bakerianum*."

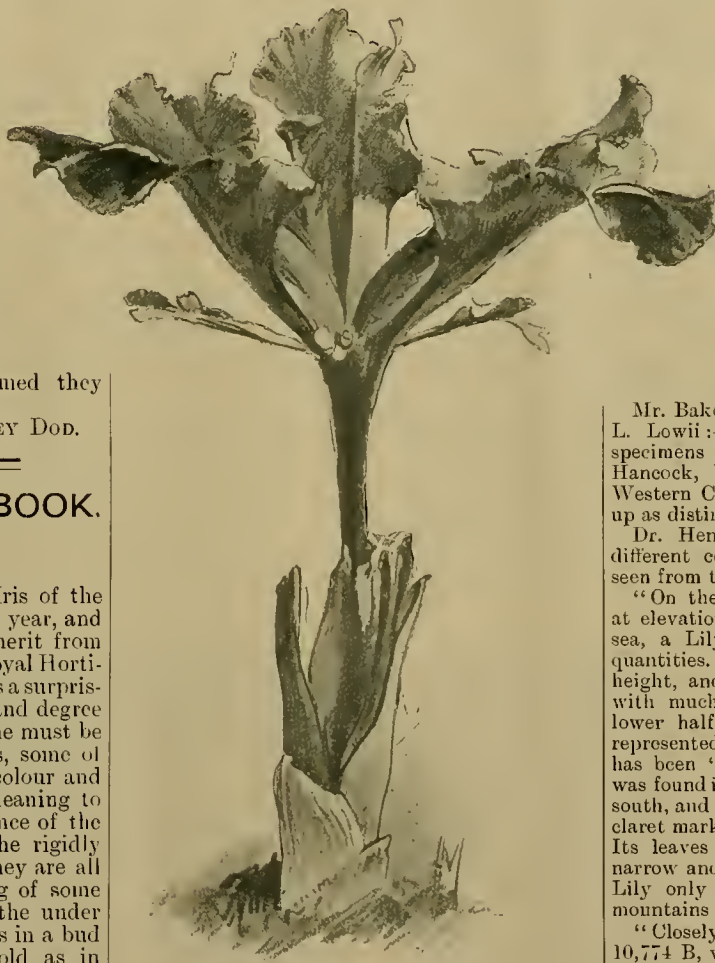
Dr. Henry's notes, however, put a somewhat different complexion on the matter, as may be seen from the following extracts:—

"On the bare grassy mountains near Mengtse, at elevations of 5,000 feet to 7,000 feet above the sea, a Lily is very common, occurring in great quantities. This Lily is from 1 foot to 3 feet in height, and the flowers are pink or purple-pink, with much speckling of a browner tint in the lower half of the perianth interiorly. This is represented at Kew by my No. 10,774, and has been identified as *L. Lowii* (Baker), which was found in the British Shan States much further south, and was described as being a white Lily with claret markings. The Mengtse Lily is never white. Its leaves are very variable, but are generally narrow and coriaceous, and very numerous. This Lily only occurs in exposed situations on the mountains amidst grass.

"Closely resembling the preceding Lily is my 10,774 B, which has also pink flowers. This has been identified at Kew as *Lilium Pseudo-tigrinum* (Carr). It was collected by me on grassy mountains south of Mengtse at 6,000 feet elevation. My No. 10,743 is a much smaller Lily, with pinkish purple flowers occurring in similar situations in the mountains near Mengtse. It has been identified at Kew as *Lilium yunnanense* (Franchet). Whether these last three Lilies are mere varieties of one species is worth considering.

"Near Szemao I found a Lily at about 6,000 feet elevation, my No. 13,026, with white flowers and reddish markings. It has been identified as *L. bakerianum* (Collet and Hemsley). It differs from the last Lily, not only in the colour of the flowers, but in the leaves, which are much fewer on the stem, larger, wider, and not coriaceous. This Lily occurs in grassy exposed mountain spots."

From this it will be seen that Dr. Henry, who has had an opportunity to study these Lilies in their native habitats, does not regard the Mengtse Lily (identified at Kew as *L. Lowii*) as synonymous with *L. bakerianum*. Certainly the description



IRIS TAURI (NATURAL SIZE).

(From a drawing by H. G. Moon.)

of plants. To thoroughly digest the valuable mass of matter contained in the report requires a considerable amount of time, but even a hurried glance reveals many noteworthy facts, some of which at least furnish considerable ground for reflection.

Among other items the following are particularly interesting:—*Lilium Brownii*.—In the paper read by Dr. Augustine Henry he speaks of this Lily in the following terms:—"Branching off from the gorges of the Yangtse there are many beautiful glens walled in by high cliffs, and in these *Lilium Brownii* (Mieliez) is common. It grows in rocky places in shelter, but not in shade. It is very variable in foliage and in the colour of the flowers. I sent some bulbs to Kew from Ichang which turned out to be a new variety, *Lilium leucanthum*, characterised by bulbils in the axils of the leaves and by short ovate leaves below the flowers. The

given of the species which was named at Kew *L. Lowii* differs markedly from that kind, particularly in the colour of the blossoms, while that of *L. bakerianum* points decidedly to the Lily grown at Kew and generally in this country as *L. Lowii*. Such being the case there must be at least a certain amount of doubt whether *L. bakerianum* and *L. Lowii* are identical.

The Lilies of the Western United States and British Columbia are exhaustively dealt with by Mr. Carl Purdy, of California. Unfortunately, very few of these Lilies give satisfaction in this country, but perhaps if their natural conditions were more closely studied failures would be less frequent. In speaking of *L. pardalinum* the writer says: There seems to be a misconception generally as to the habitat of *L. pardalinum*, the idea being that it is a bog Lily. This is by no means the case. Moisture it loves, and it sometimes grows in very wet places, but in bogs never, and the finest developed plants are not in wet places. Mr. Purdy concludes his valuable paper with some good general advice regarding the planting of Californian Lilies in the following terms:—

"To resume, I would say that the best results with no Californian Lily can be obtained without good sharp drainage. No matter if they are thoroughly wet at times, there must be no stagnant moisture or sour soil. All are at their best among low shrubs or perennial plants which shade the ground, but which they overtop in flower.

"All like a porous soil, and to all charcoal especially is grateful.

"All like trees and wind breaks, but none are at their best in shade."

The success attending the culture of *L. Parryii* (a near relative of *L. pardalinum*) under much dryer conditions than it is usually considered to require is well told by Captain Saville Reid, in whose garden at Yalding, in Kent, a peat bog was prepared for the reception of the bulbs, but owing to the supply pipe becoming choked no water passed through, the rainfall only being occasionally assisted by a pottful or two of water. Under such conditions this Lily grew wonderfully, one spike attaining a height of 7 feet and bearing thirty-nine flowers.

Before leaving these North American Lilies a protest must be entered against the name of *L. Bakeri*, which is nearly allied to *L. columbianum*, as we already have *L. bakerianum* in cultivation. Such a fruitful source of error should if possible be avoided.

The contribution by Mr. Ernest Krelage is, as might be expected from the writer's vast knowledge of the subject, both from a botanical and a commercial standpoint, a particularly valuable one. The upright flowered Lilies (section *Isolirion* of Mr. Baker) are largely grown by the Dutch, particularly the numerous forms of *L. elegans*, or *thunbergianum* as it is often called, and *L. umbellatum* or *davuricum*, which last is represented by fewer varieties, embracing a lesser range of colour than in the case with *L. elegans*. A good selection of varieties of each of the two Lilies is also given.

Considering the vast numbers of *Lilium speciosum* imported yearly into this country and the amount of capital invested in its cultivation, the following extract from Mr. Krelage's paper concerning its introduction will be of especial interest:—

"*Lilium speciosum* was found as a cultivated plant, first by Kämpfer and afterwards by Thunberg, in the gardens of Japan, its native country. Thunberg called it *speciosum*, by which name it is also at present best known, though it used to be generally called *lancifolium*, a name given by Mussche, the curator of the Botanic Gardens at Ghent (Belgium), where it flowered for the first time in Europe in the summer of 1832.

"Two years before Von Siebold, a surgeon attached to the Netherlands

Embassy in Japan, to whom we are indebted for the importation of many beautiful Japanese plants, had introduced it for the first time in living bulbs into Europe, where it had only formerly been known from an unsatisfactory description by Thunberg, and from a drawing by Kämpfer, published by Banks.

"When *Lilium speciosum* flowered in Ghent for the first time it created such a sensation that a well known Belgian amateur at once offered 2,000 francs for the mother bulb, which offer, however, was declined. Mussche presented a very few offsets to horticultural friends, and so the Lily came into other hands. The prices for small bulbs were in 1834, 200 francs each; in 1836, 150 francs; and in 1838 the stock was entirely sold out. No bulbs could be offered before the next year, when the price went back to 200 francs each."

Any attempt to extend these notes would carry them beyond the limits of a single article, but enough has been given to show the variety of the valuable information contained in the different papers, whose production we owe to the Lily conference, and to those gentlemen who helped to make it such a success.

The following are the papers printed in the *Journal of the Royal Horticultural Society*:—

"Descriptions of the New Species and Principal Varieties of Lily Discovered since the Publication of the Monograph of Elwes (1880)," by J. G. Baker, F.R.S., V.M.H.

"Notes on Chinese Lilies," by Dr. Augustine Henry.

"The Lilies of the Western United States and British Columbia," by Carl Purdy, U.S.A.

"Dutch Lilies," by Ernst H. Krelage, Haarlem.

"*Lilium speciosum*," by F. W. Seers, Naimi Tal, N.W.P., India.

"Extract from a Letter to the Chairman on *L. medeoloides*," by Alfred Unger, Yokohama.

"Lily Disease," by George Massee, F.L.S., F.R.H.S.

"Notes of my Experience with Lilies," by George F. Wilson, F.R.S., V.M.H.

"Lilies from Seed," by F. W. Burbidge, M.A., V.M.H.

"Lilies in a Town Garden in the North," by George Yeld, M.A., F.R.H.S.

"Lilies in the Open-air Garden and Woodland," by W. Goldring, F.R.H.S.

"Lilies," by J. Carrington Ley, M.A.

"Lilies at Yalding in Kent," by Captain Saville Reid.

"Lilies in Devonshire," by G. S. Patey.

"Experiences in Growing Lilies," by Dr. Bonavia, F.R.H.S.

"An Amateur's Attempt to Grow Lilies on Chalky Clay," by Henry Jones, F.R.H.S.

"Lily Culture Under Glass," by R. W. Wallace, F.R.H.S.

"Extract from a Letter to the Chairman on a supposed Hybrid between *L. pardalinum* and *L. Parryii*," by James Snow Whall. H. P.

ROSE DR. GRILL.

THIS delightful Tea Rose was hardly known in England till it was brought forward and its merits were pointed out by Mr. Robinson. It has a charming and quite remarkably refined quality of growth and foliage, and the rosy bloom shaded with copper gives the same impression of distinction with dauntiness. Hence it is one of the prettiest of Roses for a bed by itself. The undergrowth of pale tufted Pansies fills the under space, and when rightly assorted for colour enhances the beauty of the Rose.

ROSA BANKSIÆ GRANDIFLORA.

THE large-flowered Bankian Rose is one of the three kinds in general cultivation that is most unwilling to flower in England. The illustration shows it blooming freely in a garden in France, and illustrates the beauty of Roses grown on a series of arches over a path.

For the same effect or one of even fuller bloom in England, it would be better to use such Roses as Climbing Aimée Vibert or Mme. Alfred Carrière.



TEA ROSE DR. GRILL CARPETED WITH TUFTED PANSIES. (From a photograph by Miss Willmott.)

GARDENING OF THE WEEK.

THE FLOWER GARDEN.

MILD open weather should now be taken advantage of to complete all planting operations that may have been left over from the early winter. The days are lengthening and the sun gets more powerful, so every opportunity should be taken advantage of. When planting trees and shrubs make much wider holes than the roots actually require, and the soil at the bottom of the hole should be broken up to allow water to drain easily away. Good surface soil should be put in immediate contact with the roots, and give a mulching of manure to prevent the effects of after drought. Planting Yew and Hollies, if not done last September, should be left until April. All work in the way of renovation and improvements should be forwarded before the busy season comes on.

TURFING NEW GROUND

or any relaying should be done as soon as possible, for though one can do this work as late as April and May, the result is more satisfactory and entails less labour with regard to after attention if done early. Now is a good time to prepare different parts of the wild garden for naturalising some of the most appropriate annuals and perennials either by sowing or planting.

The results thus obtained are very effective, enhance the pleasure of this part of the garden during the summer months, and make a most worthy continuation of the display achieved by the naturalisation of bulbs in the grass during the spring. A very simple yet excellent effect is easily obtained by sowing a piece of ground with Shirley Poppies in March or April. In the course of a week or so the ground becomes green with the seedlings, and during the summer months it becomes a sheet of colour that can never fail to elicit the admiration of everyone. When preparing the ground great care should be taken to fork out the roots of any coarse-growing grasses or herbs which would be likely to grow stronger than the Poppies.

THE FOXGLOVE

is another very appropriate subject for naturalising in this manner, as it is undoubtedly one of the most beautiful and stately of our native flowers. Not only in large masses does it look well, but in isolated clumps in out-of-the-way places by the woodland walks and the sides of streamlets. It can be grown as an annual, but is best treated as a biennial, as it then flowers much more freely. All that is required is to sow a few seeds where they are intended to flower in spring, and they will look after themselves, and in most instances perpetuate themselves readily. It is a good plan to raise and plant into nursery rows a few hundreds every year, transplanting them into their flowering places at this season. Many an unattractive spot in the pleasure ground can be made beautiful by means of the Foxglove.

THE ANCHUSA,

especially the large one *italica*, is splendid for planting out in wild places. It is perennial, but by sowing now in boxes can be had in flower before the end of the summer. The bright blue flowers and borage-like foliage are well suited for wild gardening. Where the common Primrose is not naturally abundant a beautiful effect can be obtained by clearing a piece of ground on a slope or in a dell and sowing it in sufficient quantity to ensure in future a carpet of these lovely and delicate flowers. The sowing should be done in April. Violets and Delphiniums are other plants that should be encouraged in the wild garden.

HUGH A. PETTIGREW.

Castle Gardens, St. Fagan's.

THE KITCHEN GARDEN.

SEED SOWING.

SHOULD the weather be favourable small sowings may now be made in warm districts on south borders or sheltered positions on ground which has

been previously prepared, but it is well to bear in mind that winter weather may yet be in store for us, and it is extremely risky to sow to any extent. On no account venture on the ground unless dry and in workable condition and when the surface can be raked down to a fine tilth.

PEAS.

It will be quite safe to make sowings of the earliest varieties, but, as I pointed out in a previous calendar, much better results may be obtained by raising them under glass and planting out later on. In case circumstances do not allow and outside sowings have to be depended on, be on the safe side and guard against ground vermin, such as rats and mice, by setting traps when the seed is sown. It is surprising what serious damage these will do to the crop in a few nights, and where rooks abound wire-guards or netting should be placed over them. Broad Beans of the long podded varieties may also be sown and the same precaution taken for their safety.

PARSNIPS.

Along season of growth is necessary to ensure fine roots, and as the plants are perfectly hardy early sowing should be resorted to, and any time during February the seed may be sown, providing the land is in a workable condition. Unless it is so it will be far better to defer doing so until March, or ugly ill-shapen specimens will result. When these are required for exhibition extra care and attention must be given, as only in the most favourable soil will these develop into typical specimens unless means are taken to assist them. Nevertheless, it is possible by so doing to produce these in their best form on the most unkind land by what is generally known as the boring process. The holes should be made with an iron bar to the desired depth and filled in fairly firm with a suitable mixture. Nothing is better for this purpose than the old soil saved from the potting shed, which should be kept dry and passed through a fine mesh sieve, or, failing this, a light sandy mixture may be prepared, when a very large percentage may be relied on for the exhibition table.

GENERAL WORK.

Sow also short breadths of Shorthorn Carrot, early Milan Turnip, Spinach, and Radishes. Make further sowings under glass of Carrots, Cauli-flowers of sorts, self-protecting Broccoli, and long forcing Turnip in cold frames. Potatoes may also be planted in cold pits or frames, and Radishes sown in shallow drills between them. Much care and attention will be necessary by way of airing, watering, and protecting against frost to make the earlier sowings successful. Maintain as often as possible a gentle growing temperature, excessive heat or cold draughts must be guarded against, and the outside temperature will have to determine to a great extent the amount of ventilation necessary. Asparagus forced on hot-beds or



THE LARGE FLOWERED BANKSIAN ROSE IN FRANCE.

(From a photograph by Miss Willmott.)

heated pits will now give little trouble, and can be brought forward with the greatest ease, and if good strong plants are used heads almost equal to those cut in the open in spring should be produced. Introduce Seakale and Chicory to the Mushroom house to keep up a regular supply. Box up Mint and Tarragon and bring on in a cool house or pit.

E. BECKETT.

Aldenham House Gardens, Elstree, Herts.

FRUIT GARDEN.

PEACHES AND NECTARINES.

THESE, even in cases where their branches have been released and drawn from the walls with a view to retarding the blossoms and thus help them to escape the damaging spring frosts, must at an early date be re-trained. The work involved in attending to this, provided the pruning was properly done, as it should have been in the autumn as soon as the fruit was gathered, will simply be in readjusting the branches and young wood in a neat and regular way. In doing this the object, as far as possible, should be to secure a supply of fruit-bearing wood at about 5 inches apart over the whole surface of the wall. These desirable conditions, however, can only be attained by general and skilful management, and this remark applies especially to disbudding and the laying in of young shoots during the growing season. Great care should be taken in training young trees to arrange their principal branches so as to form a perfect fan, and the points of extending shoots should be shortened when necessary to ensure a sufficient supply of subsidiary

branches. Any unripened portions of young wood should be removed.

SPRAYING FRUIT TREES.

The importance of this is now so widely acknowledged that perhaps an apology should be made for referring to it. However, cultivators may be reminded that a solution composed of crude commercial potash and caustic soda, 1lb. of each, in 10 gallons of water, used in a hot state, when the trees are dry and before the buds burst, destroys both lichen and the eggs of insects. This solution of the above-named strength may be safely used upon Apples, Pears, and Plums, but for Peaches, Apricots, and Cherries, owing to their buds being more sensitive, 16 gallons of water should be used to each pound of the other ingredients. Care must be exercised in spraying that the compound does not come into contact with plants having foliage or the bulbs of Lilies, &c., and the hands must be protected.

APPLYING MANURES.

There is no question but that manures and their application are matters that many of us know far too little about. We are consequently more or less dependent for instruction upon the horticultural chemists, whose views upon the subject, however, do not always agree. The indiscriminate use of manures may work much mischief, and therefore before applying them to fruit trees or plants of any description it should not only be ascertained that they are chemically suitable for the subjects, but also that the trees, &c. are really in need of them. Young trees planted upon suitable soil usually form sufficiently strong wood to be satisfactory for some years after being planted without being afforded manurial aid, and should not be assisted until their needs become apparent. Matured trees, on the other hand, that show indications of having partially exhausted the natural supply of food should have yearly assistance equivalent to their wants. Slow acting manures, such as derived from the farmyard, kainit, and bone-meal are best applied in the autumn, while superphosphates, muriate of potash, nitrate of soda, and other quick acting soluble fertilisers should be applied early in the spring. The drainage from stables, &c., is a valuable manure for fruit trees, Strawberries, &c., which, if at command, can be used at the present time, in a diluted form, and in quantity sufficient to thoroughly permeate the soil occupied by roots. Charred garden refuse, wood ashes, &c., may also be applied as top-dressings at this season with much benefit.

THOS. COOMER.

The Hendre Gardens, Monmouth.

INDOOR GARDEN.

VENTILATION.

THE greatest care is needful during February and March regarding the admission of air. Cold winds and bright sunshine often come together and cause the temperature of the houses to rise higher than necessary. Sudden changes of temperature caused by improper ventilation very soon show their evil effects on young and tender foliage. The ventilators should be opened gradually as soon as the temperature begins to rise in the morning on the leeward side of the house, as draughts should always be avoided. The house should be closed early in the afternoon, so that sun-heat may add to the warmth during the night. In bright and sunny weather stop fires early in the morning, and do not start them until late in the afternoon. The temperature of the stove should be from 60° to 65° by night, 70° to 75° by day, allowing the thermometer to rise higher with sun-heat. The cool greenhouse should be 45° to 50° by night and 55° to 60° by day.

HERBACEOUS CALCEOLARIAS

should be placed in the pots in which they will flower. Use a compost consisting of half turfy loam, quarter leaf-mould, and quarter sheep or cow manure, with sufficient sharp sand to keep the whole porous. Pot firmly, but not too firm, or the roots will not run freely. If the plants are kept in a dry atmosphere and a high temperature red

spider will soon disfigure them, therefore they must be given a cool, damp, airy situation. They are also subject to attacks of green fly. Fumigate as a preventive rather than a remedy against this pest.

CHRYSANTHEMUMS

that were propagated in December should not remain in small pots too long. They must not be checked, but kept in vigorous growth from first to last. The soil used for the first potting should consist of turfy loam, leaf-mould, and sharp sand. The pots must be cleaned and carefully drained. Keep the frame close for a day or two, after which the more air that can safely be given the better.

POT ROSES

that were pruned and top-dressed last autumn may be brought into the forcing-house. Keep a sharp look out for aphids, to which Roses are subject. Pot Roses in a forward state may have manure water given them occasionally.

CALADIUMS

which show signs of growth must now be potted into a mixture of turfy loam, leaf-mould, and a little well-decomposed manure, in about equal parts, adding enough sharp sand to keep the whole open. Thoroughly drain the pots, as these plants require abundance of water. The size of the pots must be regulated by the specimens required. After potting place in stove temperature and syringe daily, but withhold water until growth and roots have been made, then increase the supply. If given bottom heat at this early time they will make more vigorous growth, as they delight in strong heat when growing.

The following seeds may be sown in pans filled with a finely-sifted compost of loam, leaf-mould, and sand—placed in a hot-bed frame or in a house with a temperature of about 65°—viz., *Richardia Elliottiana*, *Asparagus Sprengeri*, *Francoa ramosa*, *Celosia plumosa*, *Primula obconica*, *Phormium tenax*, *Mimosa pudica*, *Celsia arcturus*, *Chianthus Dampieri*, *C. puniceus*, and *Torenia*.

JOHN FLEMING.

Wecham Park Gardens, Slough.

ORCHIDS.

RAISING ORCHIDS FROM SEED.

FOR many years this has been extensively practised by a number of our leading firms, and the result is seen in a vast number of rare and beautiful hybrids, many of which surpass the species that have hitherto been introduced. Amateurs, too, have also been successful, and have added many noteworthy hybrids to the already extensive list. The plants so raised being accustomed to the artificial conditions of our Orchid houses are far more easily cultivated than imported plants. There are few phases of gardening that give more pleasure than that of raising Orchids from seed; it is highly interesting to watch the gradual development from the tiny germ to the small globules, from the apex of which the first leaf appears, and from the base of which the first root is emitted, and so on up to the flowering stage. Many cultivators, even in small collections, are exercising their talents in this direction, and to those commencing with little knowledge of the subject a note may not be out of place.

HYBRIDISING.

It is naturally the object of the hybridist to bring about something new and meritorious that will, when the flowering time arrives, well repay the care expended, and to aim at this one must select the finest species and varieties for experiment. When two Orchids are selected for this purpose the first simple operation is to transfer the pollen masses from the flowers of one plant to those of another. When this is done a neat label should be attached bearing the date of crossing and the names of the plants, or a still smaller label may be

used to show a number referring to the record kept in a book. If the plants hybridised are light-loving subjects, as *Cattleyas*, *Lælias*, and *Dendrobies*, they should be placed near the light at a reasonable distance from the glass, and should never be allowed to suffer for want of water at the root. Such plants as *Dendrobium wardianum*, *D. nobile*, and others that are generally removed to cooler quarters as soon as growth has finished, instead of being removed thus it is best that they should remain in a temperature not lower than that of the *Cattleya* house during the development of the seed pod. It must always be borne in mind that the production of seed is a great strain upon the plants (with the exception of *Cypripediums*, which suffer but little in consequence), therefore the one intended for the seed parent must be a plant perfect in health, with plenty of roots, and one that will not need disturbing until the seed has ripened and is taken from the plants. The time necessary for the seed to ripen varies from seven to twelve months, and when the seed is ripe the pods open. In most cases it is best sown at once, especially of the *Cypripedium*, for if kept too long it loses vitality.

THE SEED OF CATTLEYSAS,

Lælias and *Dendrobiums* may be kept for a longer period; it is therefore best to sow but little of the latter seed during October, November, and December. Any pod that opens in these months may remain on the plants and be tied up with tissue paper to prevent the seed being lost, or be removed and hung up in the house where the plants are grown until January or February. Then sow the seed; some pods when opened may appear to contain nothing but chaff, but these should by no means be thrown away, for in most cases the end of the pod contains a few good seeds.

PREPARATION FOR SOWING.

The seed may be sown in soil in which pot plants are growing or in specially prepared pots. In preparing for the former select plants that will not need to be disturbed for at least twelve months, pick away the surface, and top-dress with peat, pressing the same moderately firm and trim off closely. Specially prepared pots should be filled to within 1 inch of their rims with crocks, and the remaining space firmly filled with peat and finished off as above mentioned. Pots may be filled to within 2 inches of their rims with crocks, and the remaining space filled with Bracken roots thoroughly dried before being placed in the pots, and again well moistened before the seed is sown upon them. The seed of *Cattleyas*, *Lælias*, and *Dendrobies* may also be sown on wood, and on this the seed germinates freely and is well under observation; the wood used for this purpose must contain no substance likely to injure plant life. A very suitable wood and one easily obtained is that of old scaffold poles, cut across with a rough saw about $\frac{1}{2}$ inch or 1 inch thick; these being round need little preparation other than making a hole through the centre of each piece. Before being used they should be thoroughly dried, and again well soaked, after which they should be placed in pots filled about two-thirds with crocks. Over the latter place a layer of moss, and on this lay the pieces of wood, so that the upper side is just below the rim of the pot, and any intervening space between pot and wood may be filled with peat.

SOWING THE SEED.

Where no seedling house proper exists the plants, pots, &c., intended to receive the seed of warmth-loving plants, such as *Cattleyas*, *Lælias*, *Dendrobiums*, *Cypripediums*, &c., should be placed in the warmest house, and well moistened a day or so previous to sowing the seed. The latter should be sown thinly on the surface, carefully labelled, the date of crossing, sowing, and names of plants recorded, so that when the hybrids flower there may be no mistake in the parentage. The seed should be carefully watered in by delicate spraying, and from then should never be allowed to become too dry, especially the seed of *Cypripediums*; if this becomes dry a few times it will inevitably perish.

PRICKING OFF THE SEEDLINGS.

Some time elapses before the seedlings make their appearance, in some cases they are visible in a few months, in others the seeds sink in the peat and it may be twelve months before they appear. It is therefore advisable not to dispose of the seed beds too soon or valuable seed may be destroyed, except that sown on wood, which is always visible, and one can easily tell when it has perished. The seedlings that come up on peat may remain until they are nice little plants with one or two leaves and a few roots, and then be transferred singly to 1-inch pots, or they may be undisturbed until they are good sized plants, and be moved later to 2-inch pots. Those sown on wood should be transferred to prepared pots of peat as soon as the little globules have fully developed before any roots have taken hold of the wood, four or five being placed in 1-inch pots, or proportionately in larger ones. There they remain until they begin to root, and then must be placed singly in 1-inch pots. This work should be performed with great care, for if the little globules are bruised in the slightest degree they will perish. In preparing

THE COMPOST

cut the peat and moss finely, using but little of the latter, and be careful not to press the same too firmly in the pots or the little roots will be unable to penetrate it. The house in which the seed is sown should be well shaded from the direct rays of the sun, a temperature of 65° to 70° by night and 70° to 75° by day ought to be maintained throughout the year, the atmosphere kept well charged with moisture, and air admitted only on very favourable occasions.

F. W. THURGOOD.

WINTER PEARS.

PASSE COLMAR.

If one may judge of the favour with which a Pear is regarded by the frequency or otherwise of notes concerning it in the horticultural press, then Passe Colmar may be said to be an unpopular variety. Rarely is it referred to, either in terms of praise or disapproval. It is, however, a very good Pear for orchard culture, particularly if it can be given a warm and rich soil. The fruit is of medium size, well flavoured, and melting. It is in season from early November to Christmas.

CORRESPONDENCE.

(The Editors are not responsible for the opinions expressed by their correspondents.)

BOTTLING FRUITS.

[TO THE EDITOR OF "THE GARDEN,"]

SIR,—C. Macquarie's instructions for bottling fruit are good; but I can improve upon them. "Canned" fruit is the American housewife's staple dessert in winter, and I put mine up as follows: Make a light syrup by dissolving 1½ lb. of granulated sugar (is that your castor sugar?) in one quart of water, putting it in a jar or kettle at the back of the stove, where the syrup becomes warm but not hot. Peel Peaches or Pears, halve them, and put neatly in the jars until full; then fill the jars up with the syrup, pouring in carefully to drive out air-bubbles. Put some flat pieces of wood on the bottom of a wash-boiler or large saucepan, stand the jars of fruit upon these, with a wisp of straw or tough paper around each jar to prevent risk of breaking by jolting together. Lay the lids upon the jars (but not fastened) and pour cold water into the boiler until it comes two-thirds the height of the jars. Put the boiler on the front of the stove, and notice when it comes to a boil. About three minutes after the water in the saucepan boils, Peaches and Plums (which are put in the jars without peeling) are cooked; small

fruits less; Pears five to seven minutes. Then draw the saucepan back, lift out the jars, and, if not quite full, pour in a drop of boiling water to fill. Seal at once. There is no labour of filling, with accompanying scalded fingers, no mashed fruit, and it keeps perfectly. Cherries and Strawberries are delicious thus canned. Our Cherry and Strawberry jam, unlike this, is cooked in the sun, with surpassing results. I should be glad to offer any information concerning American modes of cooking fruits and vegetables if desired. They often involve less labour than English methods, with equally good results.

Maywood, N.J.

EMILY TAPLIN ROYLE.

[The sugar indicated is not exactly castor sugar, which is the best cane sugar in finest powder; but no doubt the ordinary white preserving sugar, as used in England, would give the desired result.—Eds.]

YOUNG GARDENERS AND THEIR IMPROVEMENT.

[TO THE EDITOR OF "THE GARDEN,"]

SIR,—At first reading this may seem to be a somewhat unnecessary title, and doubtless will to

His practice will be made much more interesting by the addition of a certain amount of theory, and this will enable him to understand the why and wherefore of much that he now does by rule of thumb. His mental horizon will become considerably enlarged, and he will find points of great interest in things that before were entirely commonplace to him. When a man knows something of the life-history of a plant he cannot help but tend it with an increased interest and love than were it but just one plant amongst many. A knowledge of the mysterious changes which occur during seed germination, grafting, the rooting of cuttings, &c., should bring a greater intelligence to bear in practising these operations. The gardener should, above all, cultivate keenly his powers of observation, for there are few who have the opportunities for observation of nature that a gardener has by reason of his surroundings and daily work. And how comparatively seldom do gardeners—professional gardeners particularly—make use of them!

It will not be denied, I think, that amateur gardeners note far more keenly the details of their own small gardens than the professional often does in the larger garden under his care. Possibly the explanation of this lies in the fact



PEAR PASSE COLMAR.

many young gardeners considering themselves to possess a fairly good knowledge of their profession. There are few of us, however, it matters not what our position in life is, whose knowledge does not stand in need of improvement, and it is in taking this broad view that I would offer my remarks. Some few months ago the subject of "The Incompetence of Young Gardeners" was discussed in your columns, but I am not of those who would accuse young gardeners in general of being incompetent. Neither in writing under the present heading to my notes do I lay myself open to this charge, for to endeavour to lead a man to improve himself does not for a moment imply that he is incompetent. Very far from it; it is often the most competent who pay the greatest heed to their self-improvement; indeed, one may go so far as to say that competent men generally are so because they have never been so foolish as to think themselves in need of no further improvement, and consequently have taken advantage of opportunities. I think the gardener is a man who can very largely profit by the results that self-improvement brings about, and all will admit that the earlier this is commenced the better.

that the professional concerns himself more particularly with results, and so often, therefore, leaves the details to others. He does not give the personal attention that counts for so much in the acquiring of knowledge. To the young gardener desirous of improving himself with a view to advancement in his profession I would suggest that he commence by studying a course of elementary botany. If he has a love for flowers it cannot but be increased by even an elementary knowledge of their formation, classification, &c. And this knowledge should be gained by means of the actual flowers themselves, with, of course, the help of a text-book.

The young gardener will soon find that he cannot do better than commence the study of botany by the careful examination of wild flowers, and this fact should in time lead to a study of the British flora. Even the severely practical gardener might do worse than acquaint himself with some of the most handsome of our wild flowers, for they are not to be despised in that style of gardening that at the present day tends more and more to become popular. In the wild garden they are of great value. Perhaps, however, the highest recommendation

that the search for and after study of British plants is that it makes one observant. He who commences to make a collection of wild plants, properly named and classified, will find that involuntarily during his country walks his eyes are constantly on the look out for something new to add to his collection. And this keen observation will also assert itself during the day's work in the cultivated garden.

That a man may have an intelligent conception of the reason for doing this or that work it is necessary that he read books upon the theory and principles that govern the practice of horticulture, and as an incentive to this he could not do better than endeavour to pass the examination that is held by the Royal Horticultural Society in April of each year. The gardeners' improvement societies that, it is gratifying to see, are still being formed throughout the country, are, to a certain extent, doing excellent work. Those who have read essays before such societies will know how much time, labour, and thought are required in their compilation. To write an essay upon any subject one has to think, and one very often then thinks of things that otherwise would never have been noticed.

I think there is a danger, however, of the good that gardeners' improvement societies are capable of doing being minimised; and for the reason that members are too content to run in the same groove year after year. There is a lack of initiative. Instead of continually reading and discussing the cultivation of ordinary well-known plants that probably everyone knows how to grow, although he may differ on certain minor points from his neighbour, how much better would it be were they to try and break away from such a routine and introduce subjects likely to make them study and learn something fresh. The British gardener is conservative, and this conservatism is to a great extent preventing his advancement and enlightenment; he is only too content to follow in the footsteps of his predecessors. The great change that has come over gardening in England during the past few years should not be without its effect upon the gardener, and he who is best able to intelligently put into practice the entirely different ideas that are making such progress will be the gardener in demand in years to come. But such gardeners will be those men who in their youth did not neglect the many advantages offered for their self-improvement in these early days of the twentieth century. A. P. H.

THE KITCHEN GARDEN. FORCING CAULIFLOWERS.

FORCING as a term applied to Cauliflowers may be somewhat misleading, as much warmth at any time will end in failure; but of course there are different grades of forcing. The Cauliflowers need much glass protection for a time. I do not advise sowing in strong heat, but just enough warmth to effect quick germination is sufficient, as much warmth means a weakly growth. Once the plants are weak the best after management is of little account. Some cultivators sow the forcing varieties in the early autumn, and though I have rarely seen this practice advocated in *THE GARDEN* there is much in its favour, providing the seedlings are grown thinly and not sown too early. September is quite early enough, and there is no delay in growing on early in the spring. The danger of autumn sowings is that the least check causes these early varieties to button prematurely, and they are then useless. The season for sowing, as noted above, is past. My article refers to sowing at this season, and the great value of the forcing Cauliflowers of which Veitch's Early Forcing, Sutton's First Crop, and Carter's Defiance Forcing are all valuable types. To these may be added the small but useful Snowball, a very compact and early variety. Any of the varieties named may be grown in frames or pots from the start; but as many cannot devote space to the Cauliflower under glass from the start to the finish, they can, however,

prepare the crop at the start, and doubtless the heads grown thus are more welcome, as they come in just at a season when the late Broccoli are past, and few choice vegetables are available.

I have referred to varieties, so that I need not dwell upon this point, but I would add, no matter what variety is grown, the plants should have good soil and care at the start. I am aware many object to forced vegetables, but so much depends upon the treatment. The Cauliflower in its native habitat does not get such varied weather as in this country, and the plant will not stand severe cold, so that glass protection is beneficial. We secure our earliest heads by growing in frames from the start, the seed being sown in autumn, and the plants planted under the glass when large enough. These forcing varieties, especially First Crop, are of very compact growth, and may be always grown 12 inches apart. We grow them thus, as in the spring the Cauliflowers are cleared away and French Beans planted. With regard to the time of cutting there is a little gain over seed sown in December or January and pricked out in frames on a warm bed, but, as stated previously, there is also a danger of the plants turning in prematurely. I think the best system to get early supplies in the open, and at less labour than when heat is given, is to sow a box of seed in January in frames, prick out the seedlings in boxes when larger and give frame shelter for a time, then plant out with a trowel, preserving the ball of earth and roots. On a warm south border we plant between early Peas, that is, Peas raised under glass and planted out and sheltered from cold winds. The crop grown thus is most useful, as though the Cauliflowers are small, being about the size of cricket balls, they are much liked, and as they take up so little space it is easy to grow a single row of Cauliflowers between Peas, only given 3 feet space between the rows. I have not gone into pot culture. I do not think the return equal to the labour entailed, and that is an important point in most gardens. Another great feature with these early forcing Cauliflowers is that in certain seasons the spring Broccoli is not always plentiful owing to losses, and the loss can be remedied in a great measure by sowing the small early Cauliflowers at this season. G. WYTHES.

BOOKS.

The Woodlands Orchids.*—This is an interesting and dainty volume about one of the most comprehensive collections of Orchids ever brought together, that of Mr. R. H. Measures, of The Woodlands, Streatham. It was formed as a source of recreation in the first place; in truth, as Mr. Boyle, the author, says, "under compulsion." The doctor believed in the wholesomeness of gardening, whether of the glass house or the mixed border. "Take a house in the suburbs with a large garden," was his advice to his patient. "Cultivate some special variety of plant and make a study of it"; and to quote the author: "Forthwith a house, with seven acres of land about it, was purchased at Streatham—The Woodlands—destined to win renown in the annals of Orchidology." In forming his wonderful collection he has had the good advice of Mr. Godseff, and a warm tribute of praise is paid to Mr. J. Coles, who has charge of the thirty-one houses, with thirteen subordinates in regular employment.

There are many chapters. One concerns the glorious Cattleya house, 187 feet long, 24 feet wide, divided by glass screens into seven compartments. Here is the collection of *Lælia elegans*, one of the finest in the world. "In this house, where only the large plants are stored, we count 500; 700 more are scattered up and down. Nowhere in the world can be seen so many examples of this exquisite variety—certainly not in its birthplace, for there it is very nearly exterminated. In such a multitude rare developments of form and colour must need abound, for no Orchid is so variable." Then follows a list of the species and hybrids

under cultivation, comprising many of the most precious in existence. Mr. Boyle writes in a pleasant, chatty way, interspersing his descriptions with stories about intrepid collectors and botanists. The chapter about Roehl, the famous collector, is full of interesting, not to say thrilling, tales. *Cypripedium insigne* forms the subject of several pages of practical information, and there is a story of *Cattleya Skinneri alba*, but too lengthy to repeat in a review. The *Phalenopsis* house, *Vanda* house, hybrid *Cattleyas* and *Lælias*, "a legend of Madagascar," *Calanthe* house, *Cymbidium* house, *Cattleya labiata* house, *Cypripedium* house, and many other phases of Orchid life are described in the book. The following notes from the chapter about *Dendrobium schroderianum* will show how agreeably written is this history of a famous collection: "The variety of *Dendrobium Phalaenopsis*, hereafter to bear Baron Schroeder's name, was sent to Kew by Forbes about 1857. This single plant remained a special trophy of the Royal Gardens for many years. It thrived and multiplied. In course of time Sir Joseph Hooker was able to give a small piece, in exchange for other varieties, to Mr. Day, of Tottenham, to Baron Schroeder, and to Messrs. Veitch. The latter sold their specimen to Baron Schroeder, Mr. Day's collection was dispersed, and the same greatest of amateurs bought his fragment. Thus all three plants known to exist in private hands came into Baron Schroeder's possession, and the variety took his name. This state of things lasted for ten years. Mr. Sanders then resolved to wait no longer upon chance. He studied the route of Forbes's travels, consulted the authorities at Kew, and, with their aid, came to a conclusion. In 1890 my friend Mr. Micholitz went out to seek *Dendrobium schroderianum* in its native wilds. . . . It is universally understood that Micholitz discovered the object of his quest in New Guinea. If that error encouraged the exploration of a most interesting island, as I hear, it has done a public service. . . . Very shortly now the true habitat will be declared. Meanwhile, I must only say that it is one of the wildest of those many 'Summer Isles of Eden' which stud the Australasian Sea." Then follows an account of the landing, and after some days spent in making arrangements, Micholitz "received an intimation that the chiefs were going to a feast and he might accompany them. . . . The chance of making a trip beyond the narrow friendly area in safety was welcome, and at daylight he started with the chiefs. It was but a few hours paddling to the next bay. The feast was given, as is usual, to celebrate the launch of a war-prau. In martial panoply the guests embarked, paint and feathers, spears and clubs. They were met by their hosts in the same guise upon the beach. After ceremonies probably—but I have no description—all squatted down in a circle, and a personage, assumed to be the priest, howled for a while. Then the warriors began to dance, two by two. It was very wearisome and, besides, very hot. Micholitz asked at length whether he might leave. The interpreter said there was no objection. He walked towards the forest which stood some distance back, even as a wall skirting the snowy beach. The grey huts of the village glimmered among Palms and fruit trees on one hand.

"A sunbeam way had been dug from the edge of the surf to a long low building a hundred yards back; within it lay the prau, doubtless ready to be launched. Micholitz skirted this channel. He noticed a curious group of persons sitting apart—an old man, two women, a boy, and a girl. The elders were squatting motionless upon the sand so bowed that the long wool drooping hid their faces; the children lay with their heads in the women's laps. None looked up. In passing he observed that these latter were bound.

"The boat-house—so to call it—spanning the channel, was a hundred feet long, built of Palm thatch, with substantial posts at due distance. As he walked along it Micholitz became aware of an unpleasant smell. It was not strong. But in turning the further corner he marked a great purple stain upon the sand. Flies clustered thick there. It was blood. And then, upon the wall

* "The Woodlands Orchids." By Frederick Boyle. Coloured plates by J. L. Macfarlane. London: Macmillan and Co., Limited. Price £1 1s. nett.

of that above and the corner post, he traced the stream running broadly down. He looked to the other angle. The horrid mark was there also. They could not see him from the beach. Easily he parted the crackling Palm leaves and thrust in his head. At a few feet distance rose the lofty stern post, carved and painted, with two broad shells glistening like eyes in the twilight. No more could he see, dazzled by the glare outside. That passed, he turned to the right hand, and drew back with a cry. A naked corpse, with head hanging on its chest, was bound to the corner post, the same to left. . . . These horrors had so disconcerted him that for an instant he saw long green stems of Orchids perched upon the boughs without regarding them. But here was one from the top of which depended a cluster of rosy garlands, four or five, bearing a dozen or twenty or thirty great flowers, all open; and there a cluster snow-white, a crimson one beyond, darkening almost to purple. *Dendrobium schroderianum* was rediscovered."

With such stories of Orchid hunting experience is this book interlarded, and, needless to say, there is much cultural information of value. It is an interesting contribution to Orchid literature, and tells the story of how one of the most famous collections of the present day was formed. The coloured plates are excellent life-like portraits, and comprise representations of the following species: *Zygo-colax* × *woodlandsense*, as a frontispiece; *Lælia elegans* *Eyanthus*, *L. e. Macfarlanei*, *Cattleya Trianae* *Measuriesia*, *C. Schroderae*, *Miss Mary Measures*, *Cypripedium insigne* *Sanderæ*, *Lælia tenebrosa* *Walton Grange* var., *Cattleya labiata* *measuresiana*, *Lycaste Skinneri* *R. H. Measures*, *Cypripedium William Lloyd*, *C. rothwellianum*, *C. reticulatum* var. *Bungerothi*, *C. Dr. Ryan*, *Odontoglossum Rossii*, *Woodlands variety*, *O. × harryano-crispum*, and *O. coronarium*.

NURSERY GARDENS.

MESSRS. SUTTONS' PRIMULAS.

READING does not differ from the majority of towns at the present season, in that its external aspect lays itself open to be truthfully classed as uninviting, and, to the casual visitor, it may be added uninteresting. The visitor interested in flowers, their improvement, and production, having specially journeyed to the town of biscuits and seeds, in order, metaphorically, to take a fill of his favourite dish, may be on such an occasion safely classed as one to whom bricks and mortar would appeal but little, although perhaps he would be the first to disclaim any disinterestedness in building design. Nevertheless, *chacun à son métier*. To dismiss from one's thoughts, for a short space of time, the cold and now desolate Middlesex, Bucks, and Berkshire fields, through which one passes on the journey from Paddington, and the unsympathetic streets and houses of Reading, to be chaperoned through house after house of Primulas in flower (and *Cyclamens* also) in all the freshness of their spring beauty, particularly as it appealed to one essentially interested, could hardly fail to raise an enthusiasm in the minds of the most apathetic of amateur flower gardeners.

Of the beautiful, one can hardly say brilliant, picture, for the great charm of the Primula flower lies not so much in brilliancy as in its rich, soft, and pleasing colouring, the best of pen pictures would convey but a poor idea. Each variety, and they are very numerous, is, of course, kept to itself, for all the thousands of plants that one may see here are cultivated for the purpose of producing seed, and the result is that one house may be filled with a mass of either one or two colours, whilst in another house the onlooker will be confronted with a feast of colour in as many as a dozen different shades. The reason there are comparatively few plants of some varieties is accounted for either by the fact that they produce but little seed, or these sorts may be new and a large stock of them has not yet been

obtained; or again it is not unlikely that the demand for a few sorts is limited, and while it is essential to be able to supply them, to possess them in such numbers as is necessary with the more popular sorts, would obviously be inadvisable.

For elegant beauty there is nothing in the world of half-hardy Primulas to surpass or even equal the Star Primulas, and of these alone there are now to be obtained no less than seven varieties, those including White Queen, Mont Blanc, Pink Star, Giant White Star, Carmine Star, and last, but worthy to be placed at the head of the list, so far as quality is reckoned, Sutton's Star Blue. I believe I am correct in saying that never before in the history of the Primula has there been a Blue Star Primula placed before the public, and it will assuredly be bailed with delight by the many who grow these charming plants as a most welcome colour addition to this family. No apology I am sure is needed for quoting Messrs. Sutton and Sons' description of this novelty. "Delicate porcelain-blue flowers, which harmonise rather than contrast with the pale green foliage. This new variety enhances the decorative value of all the stellate Primulas."

There are cynics in the world, however, who would not hesitate to scoff at the numerous additions that are annually made to florists' flowers, which, for the moment, we will consider to be represented by the Primula, and enquire "Wherefore the continual raising of new varieties?" And I think I am not open to correction if I make answer that it is only by continually endeavouring to effect an improvement by selection and hybridisation that the high standard of beauty and usefulness in the Primula (and other flowers) is maintained. In the course of some years a strain will deteriorate, and unless it is replaced by an improved type the flowers eventually would become so poor in both form and colour as to be unworthy of production. To our seedsmen then we owe the continued high standard of beauty that is maintained in these flowers, so invaluable for the decoration of home and conservatory during the late winter and early spring. It might be deemed a fairy tale did one not know it to be a real fact that many years of patient and often unrewarded labour have been expended in obtaining the splendid strains of Primulas that Messrs. Sutton now display in their nursery grounds at Reading. And the number of seedlings that are despatched to the rubbish heap every year! seedlings that to the man in the street are by no means unpleasing, yet to the expert lack essential qualities of either form or colour of flower or habit of growth.

Nothing is more noticeable in the greatly improved forms of Primulas in Messrs. Suttons' establishment than the altogether altered habit of growth of the plants. For many years the long leaves hanging over the sides of flower pots have been the bane of those who have anything to do with Primula culture; hardly could one move a plant without breaking a leaf, yet a glance through the collections at Reading to-day will reveal a majority of plants of compact habit with leaves whose petioles are but an inch or two long. The cynic may be told also that the scientist in his study of hereditary characteristics in the vegetable kingdom derives no inconsiderable help from observations recorded by Messrs. Sutton in their continued and complex experiments in hybridisation. One or two instances were pointed out in which a batch of seedlings, whose parents were entirely distinct from their parents, showed plainly both parents and grandparents as well as other new variations.

It might perhaps seem advisable that one should not omit to mention those varieties of Primulas that Messrs. Sutton prize the most and recommend most strongly, but one must bear in mind that space is not unlimited, and further may they not all be found fully described in the beautifully illustrated guide annually issued by the Reading firm. One cannot, however, neglect to note two particularly worthy ones, The Duchess and The Double Duchess. The former, which obtained an award of merit from the Royal Horticultural

Society on Tuesday, the 28th ult., is of good size, white, with rose-carmine centre surrounding a golden eye, and the latter (which we hope shortly to illustrate) is a double form of it, retaining all the qualities and characteristics that gained for The Duchess the honour recently awarded. The enthusiast, it matters not what his subject may be, in recording his experiences is often apt, as it were, to outstay his welcome with his readers; the present writer, bearing this in mind, would be free from a similar accusation, and acts therefore upon the self-conveyed suggestion. H. T.

SOCIETIES.

EALING GARDENERS' SOCIETY.

ON last Monday week the gardeners of this district met at the Municipal Buildings to hear a paper by one of their own members on "*Lilium auratum* and *L. speciosum*," both of which Lilies were originally introduced from Japan. Mr. C. E. Green occupied the chair, and stated that it was a wise decision on the part of the lecturer, Mr. A. Holloway (gardener to Mr. E. Hyde, of Castle Bar), to confine himself to a definite title, inasmuch as there were about 170 species of Lilies known to cultivators. Mr. Holloway then gave some very practical hints concerning Lily culture, all of which were culled from his own experience. Of *Lilium auratum*, the "golden rayed Lily of Japan," he spoke in the highest terms. For pot culture he recommended a composition of three parts loam, one part leaf-soil, one part peat, and a good sprinkling of sand. The drainage, too, must be attended to, for anything like a water-logged soil was fatal to the well-being of this highly fragrant and beautiful Lily. *Lilium speciosum*, although not so showy or so highly perfumed as the other, was equally useful, and if treated in much the same manner it would develop into a noble specimen, and would be most valuable for the decoration of the conservatory. The cultivation of these Lilies outside was also dealt with, and much practical matter afforded in a variety of ways. Messrs. Burgess, Wait, Stiles, Chaffer, Knightley, Dack, Beasley, and others testified to the sound sense of the paper, and otherwise concurred in the lecturer's remarks. Mr. Burgess proposed and Mr. Frost supported a hearty vote of thanks.

An exhibition of six Chinese Primulas beautified the tables, Mr. Holloway receiving the premier prize for a group remarkable for size, quality, and colour. Mr. Woods, gardener to Mrs. Willey, was an excellent second.

WOOLTON CHRYSANTHEMUM SOCIETY.

THE annual meeting was held on Friday, the 24th ult., under the presidency of Mr. Joseph Stoney. The secretary read the third annual report, which shows that the society continues to make headway in usefulness and popularity. The number of entries at the last exhibition was 366, or an increase of 158 over that of the previous year, the cottagers by their increased entries helping materially in this way. It may be noted to show the all round success of the society that the total entries for Chrysanthemums were 102, the remainder being plants, fruits, and vegetables. The number of subscribers is progressive, although the total value of subscriptions remains about stationary. Payment for admission shows a healthy increase, the total number of visitors being about 900. These items were fully appreciated by those present, but remarks were made to the effect that the committee would have to take into consideration some way of increasing the exhibits and attendance, for although the schoolroom was utilised for cut blooms and fruit, further space was needed for subscribers and patrons. The treasurer's statement shows a balance in hand of over £36. The officers appointed for the present year were: Treasurer, Mr. Neil Gossage; sub-treasurer, Mr. R. G. Waterman; secretary, Mr. J. G. Learoud. A cordial vote of thanks was tendered to the workers for their services during the past year, and to Mr. Stoney for presiding.

LIVERPOOL HORTICULTURAL SOCIETY.

THE annual meeting was held at the society's office on Saturday, the 25th ult., Mr. Thomas Foster in the chair. The twenty-third report read by the secretary was of a cheering character, the number attending the spring show being: Subscribers, 1,840; by payment, 326. Autumn show: Subscribers, 2,005; by payment, 2,578; total, 6,749. The number of entries at the autumn show was the largest for ten years. Thanks were tendered to the donors of special prizes at both exhibitions. The statement of accounts showed subscriptions, £356 13s. 7d.; cash taken at door, £104 4s. 11d.; Payments: Prize money, £230 10s.; hall and staging, £80 15s.; general expenses, £84 13s. 11d., leaving a balance in favour of the association of £208 2s. 9d., of which £57 14s. 9d. was on the present year's working. The usual donations were voted, viz., £3 to the Gardeners' Royal Benevolent Institution and £2 to the Gardeners' Orphan Fund. The chairman announced that spring and autumn shows would be held during the ensuing year. Votes of thanks were tendered to the chairman, vice-chairman, and committee for their services. Mr. Harold Sadler was re-elected secretary.

CROYDON HORTICULTURAL SOCIETY.

THE second annual dinner and social evening of the Croydon and District Horticultural Mutual Improvement Society was held with great success at the Greyhound Hotel, on Wednesday the 29th ult. The room was beauti-

fully decorated, an abundance of plants, Palms, and spring flowers making effective decoration. Mr. Frank Lloyd, the president of the society, was in the chair, Mr. George Gordon occupied the vice-chair, and the chairman's supporters included the Mayor of Croydon (Councillor N. Page), Mr. J. J. Reid, Mr. W. J. Simpson, Mr. W. Gunner, Mr. J. Gregory (hon. secretary), Mr. Belcher, Mr. P. F. Bunyard, Mr. C. F. F. Hinchings, Mr. W. Turney, &c. There was a large attendance of members and friends, 105 sitting down to dinner.

The Chairman proposed the principal toast of the evening, and congratulated the officers of the society on the great success attending their efforts during the past year and the individual members of the society on the admirable series of lectures delivered for their benefit and encouragement. He did not think it was possible to over-estimate the value of a society like that, affording as it did a means of good-fellowship amongst all those engaged in what he looked upon as a very delightful profession, and offering encouragement to the members to perfect their knowledge of gardening by the exchange of opinions on all the varied problems which occurred to them during their work. He thought he might safely affirm that the majority of employers had even greater satisfaction in seeing their gardeners showing a great amount of interest in their work than produce a bigger Melon or a larger Cucumber than their neighbours. He rejoiced to know that their finances were in a flourishing condition, that the members were increasing, and also seeing an abundant vitality in the constitution of the society. A certain amount of surprise had been expressed that their membership had not increased more than it had during the past year, but this was explained by the fact that neighbouring places had followed their example and formed societies on similar lines to theirs, causing a natural check in the membership of the parent society. The thanks of the society were due to the lecturers, and more especially to the officers who worked hard on their behalf, notably and especially their friend Mr. Gregory, the hon. secretary.

Mr. W. J. Simpson, in responding, said that the membership was now somewhere about 150, and a great many others were waiting to be elected, so he thought that there was every prospect of their increasing in the future. It was the desire of every member to benefit the others, and make the society simply and purely a mutual improvement society.

Mr. J. Gregory proposed "Kindred Societies." It was through mixing with kindred societies, and enjoying their papers, their readings, and their discussions, and getting the benefit of their knowledge and experience, that he was encouraged to take up the matter of mutual improvement societies in Croydon.

Mr. Jay, in responding, said that the Sutton Society was indebted to those at Croydon for invaluable help, and it was greatly through that help that their society had done so well of late. He had a suggestion to give them at Croydon. He had been to their Polytechnic to see if there was any class in horticulture, botany, &c., but could find none. It seemed to him some of the money devoted to technical education ought to be devoted to such a useful subject as horticulture. Mr. Webster, who also responded, thanked the Croydon Society for the help rendered to that at Beckenham.

A presentation was made to the honorary secretary, Mr. Gregory, an account of which was given in our "Notes of the Week." Mr. George Gordon proposed the "Horticultural Trades," and the "Visitors" was proposed by Mr. H. Boshier, and responded to by the Mayor of Croydon. Other speakers were Mr. W. J. Simpson, who proposed the health of "The Chairman," and Mr. W. E. Humphries "The Vice-Chairman" (Mr. George Gordon). Flowers, plants, &c., were kindly contributed by Messrs. P. F. Bunyard, Bentley, J. R. Box, J. Reed and Sons, Masters, and Hyde.

CARDIFF GARDENERS' ASSOCIATION.

A MEETING was held at the Grand Hotel on Tuesday, the 21st ult., Mr. F. G. Treseder in the chair. Mr. Lee (representing the Bristol Gardeners' Association) read his first prize essay on "Orchids." He dealt with the subject in a very interesting and able manner, and gave evidence of a practical knowledge of a branch of horticulture which is of engrossing and increasing interest. A good discussion followed, which was enthusiastically taken up by the members. The best thanks of the association were accorded Mr. Lee for his splendid and instructive essay, and a similar vote to Mr. Treseder for presiding. A first-class certificate was awarded to Mr. J. J. Graham for a splendid plant of *Cyclamen persicum giganteum album*, and a second-class certificate to Mr. Bath for a well-grown plant of *Epiphyllum truncatum*.

GRAND YORKSHIRE GALA.

THE annual meeting of the guarantors and life members of the Grand Yorkshire Gala was held recently in Barker's Hotel, York. Alderman Sir C. Milward took the chair, and there were also present the Lord Mayor, the Sheriff of York (Mr. Potter Kirby), Aldermen McKay, Border, and Dale; Councillors A. Jones, J. B. Sampson, and J. S. Gray; Messrs. Scott, M. Cooper, Kendall, E. Robinson, T. M. Lambert, J. Bincomb, G. Garbutt, E. Bushell, T. G. Hodgson, and C. W. Simmons (secretary).

The Chairman said that the gala last year was the first of the new century, and although it was not as brilliant a success as might have been expected, they held their own, a fact upon which they might congratulate themselves. He said that the year had not passed away without calamities befalling them, and he alluded in feeling terms to the deaths of Mr. J. Cypher and Mr. W. Jackson, exhibitors for many years, and Mr. Brock. He said that the committee of the Bootham Asylum had again agreed to meet the requirements of the Council, and the Lord Mayor of York (Alderman Foster) had agreed to accept the position of president for the ensuing year. He was an old member of the committee, and had

rendered many valuable and important services to the gala. He proposed that the Lord Mayor be elected president for the ensuing year.

The Lord Mayor, in acknowledging his election, said that it was true that he had been associated with the gala for a great many years—he did not know exactly whether it was twenty or twenty-five—and he had always taken a great interest in it. It was a pleasing circumstance that this year they had the Lord Mayor and the Sheriff as chairmen of the two important committees, the Finance and Entertainment Committees. He hoped that the forthcoming Coronation would not detract from the popularity and success of the gala. With regard to other shows, financially they stood at the top of the tree, and in money prizes and in antiquity it was the premier show in the country, so that it was a very honourable position to be its president.

The Lord Mayor pointed out that it was an absolute necessity for them to have a new entertainment stage, and said that they had received an estimate for one at £200. He proposed that the sum be granted to the Entertainment Committee for the purpose, and added that the committee were hoping to be able to arrange with the Asylum Committee for the erection of a building in which to keep their properties.

NATIONAL SWEET PEA SOCIETY.

THE first annual meeting of this society was held at the Hotel Windsor on Tuesday, the 28th ult., Mr. George Gordon presiding. The following is the report and balance sheet for the past year:—

The committee is gratified in being able to place before the members of the society a report and balance sheet which are eminently satisfactory. The report speaks of a most successful exhibition, and the financial statement shows a substantial balance in the bank.

The society is the outcome of the bi-centenary celebration of the introduction of the Sweet Pea into Great Britain held in 1900. The active members of the celebration committee, in deference to the wishes of cultivators and admirers of the Sweet Pea, decided upon the foundation of a permanent body, and, with this object, a special meeting was held at the Hotel Windsor under the chairmanship of Mr. George Gordon. It was then unanimously resolved to establish a society, and some forty members joined at once. A committee was then elected.

Arrangements were made to hold an exhibition at the Royal Aquarium on July 25 and 26, and the executive committee immediately prepared the schedule, as the season of the year was already late. Twenty-two classes were provided, which brought 250 entries from 49 exhibitors. Every entry was not filled, but there were sufficient to make a magnificent exhibition, occupying the whole of the available space on the ground floor and in the western gallery of the Royal Aquarium. The competitors in several of the classes would have been more numerous but for the exceptional drought of the summer, which placed the Southern growers at a disadvantage.

Though the general effect of the show was so satisfactory, the individual flowers were not quite so fine as they would have been had the show been held a week earlier. The classes for table decorations were an unqualified success. The competition was remarkably keen, no less than nineteen tables being arranged.

A classification committee was formed to draw up some regulations regarding the properties of Sweet Peas. Several new varieties of Sweet Peas came before the committee and first-class certificates were awarded to Countess Spencer, exhibited by Mr. Silas Cole, The Gardens, Althorp Park, Northampton; and to Jeannie Gordon, exhibited by Mr. Henry Eckford, Wem, Shropshire. A variety named Mrs. Knights Smith, exhibited by Mr. Henry Eckford was commended. Owing to a terrific thunderstorm which raged over London on the opening day of the show, the attendance was not so large as the committee anticipated.

At the invitation of Mr. Sherwood, the society's treasurer, the members of the committee with several friends visited Messrs. Hurst and Sons' seed trial grounds at Kelvedon on July 18. The firm's splendid collection of Sweet Peas was carefully inspected, and the conclusions arrived at by the bi-centenary celebration committee in 1900 were confirmed. The visitors were generously entertained, and a most admirable day was spent.

The balance sheet shows: Receipts, £95 3s. 4d., and expenditure, £84 16s. 11d., thus leaving a credit balance of £10 6s. 5d.

It was resolved that Mr. Gilbert Beale be asked to become a vice-president of the society in the place of the late Mr. E. J. Beale, and a vote of condolence was passed with the family of the latter. The question of electing a president was, after some discussion, left to the committee.

It was resolved that all subscribers of not less than one guinea be placed upon the list of vice-presidents. Mr. N. Sherwood was re-elected treasurer, and sincere hopes were expressed by the meeting for his speedy recovery. Mr. George Gordon was re-elected chairman of committees, and the honorary secretaries, Messrs. H. J. Wright and Richard Dean, were also re-elected. Messrs. W. Simpson, Whitpain Nutting, and C. W. Greenwood were elected on the committee. A vote of thanks was passed to Mr. William Sherwood for his services as auditor.

BRISTOL GARDENERS' ASSOCIATION.

THE usual meeting of this association was held on Thursday, the 30th ult., when Mr. Garnish of Stapleton read a paper on "Tuberose." Mr. A. J. Hancock presiding over a good attendance. The subject was well discussed, and Mr. Garnish gave many useful hints as to the cultivation of this favourite flower, remarking that it was not grown as much as it deserves to be. The best method of potting, the most suitable compost, and the after treatment were carefully described, and anyone following Mr. Garnish's directions need not be afraid of failure. He recommended putting

three bulbs in a 6-inch or one in a 5-inch pot, and potting as soon as the bulbs arrive, and at different periods in order to have a succession of blooms, plunging the pots in gentle bottom heat until started. The best variety was the Double Pearl, which arrive during the latter part of the year. Regular syringing with clean water was advised to keep down red spider and thrip, which at times was somewhat troublesome. His paper, which was an exhaustive one, was much appreciated, and he was accorded the hearty thanks of the meeting for his effort. The prizes for the evening, which were for two pots of Lily of the Valley, were well competed for, the first being kindly given by Mr. V. Ballen, of Westbury Park, was won by Mr. G. Price; the second going to Mrs. Charles Fuller (gardener, Mr. Beazer); Alderman W. Howell Davis, J.P. (gardener, Mr. Curtis), obtaining third. Certificates of merit were awarded to Mr. Jennings for two *Cypripediums*; to Mr. N. C. Dobson (gardener, Mr. Thody) for a pot of *Freessias*. Mrs. A. Hall (gardener, Mr. Ware) obtained one for *Odontoglossum pulchellum*. Mr. Garnish gaining one for three pots of cut Tulips and one was awarded to Lady Cave (gardener, Mr. Poole) for a curious *Fungus* growth. The next paper will be an interesting one by Mr. A. Moore-Sara, Stoke Bishop, on "The Rosaceae."

READING AND DISTRICT GARDENERS' ASSOCIATION.

PROGRAMME of meetings for 1902:—February 10, "Salient Points of Fruit Culture," Mr. E. Molyneux, Swanmore Park; February 24, "Impromptu Speaking." Subjects to be named at the meeting; March 10, "A Berkshire Garden: How it was laid out and planted," illustrated, Mr. A. Wright, Bucklebury Place Gardens; March 24, "Flowering Shrubs for Forcing," Mr. W. Townsend, Sandhurst Lodge Gardens; April 7, "Carnations," Mr. G. Stanton, Park Place Gardens; April 21, "The Rock Garden," Mr. E. H. Jenkins, Hampton Hill; April 28, visit to Reading College.

Prize Essays.—Class I.: Members over 23 years of age are invited to write an essay on "All phases of pruning in connection with hardy fruit culture." Prizes—1st, 40s.; 2nd, 30s.; 3rd, 20s. Class II.: Members under 23 years of age are invited to write an essay on "The best means of keeping up a supply of vegetables all the year round." Prizes—1st, 30s.; 2nd, 20s.; 3rd, 10s.

Conditions: The Essays in Class I. must not exceed 2,500 words, and in Class II. not more than 2,000 words, and must be written on foolscap, and on one side of the paper only. No actual copying from authors allowed, but if quotations from works are made, the authors should be mentioned. Each essay must be signed by a *nom de plume*, and must be sent to the secretary not later than September 1, 1902, and the writer of each essay must at the same time send his *nom de plume*, together with his name and address, to the president, Mr. Leonard G. Sutton, Hillside, Reading; hon. secretary, H. G. Cox.

CHISWICK GARDENERS' ASSOCIATION.

A GOOD attendance of members assembled on the 23rd ult. to hear Mr. Osborn, of Kew Gardens, read a most interesting and instructive paper on "Ferns; their general cultivation and the better known genera." The paper was based on thoroughly practical experience, and dealt with Ferns from a very remote period, and from the introduction of exotic species by Mr. Tradescant in 1628 to those now in general cultivation. Suitable soils were noted and special attention drawn to the fact that experience has proved that more light and less heat, with proper ventilation, suit this class of plants better than the closer darker conditions prevalent a few decades since, when the subject was not so well understood. Methods of reproduction mentioned were by spores, division of root stocks, rhizomes, and by bulbils. It was recommended that spores should be started as soon as dry, after being gathered, for keeping generally proves unsatisfactory as regards subsequent germination. After mentioning many interesting species worth cultivation a discussion was opened by Mr. M. T. Dawe, who classed his remarks into two headings—(1) Botanical; (2) Horticultural; and spoke at some length on both, giving some interesting cultural experiences. Messrs. Mallinson, Silstone, Ball, and Prince also spoke. Mr. T. Humphreys was in the chair. At the close very hearty votes of thanks were unanimously accorded the reader of the paper and the opener of the discussion.

READING GARDENERS' ASSOCIATION.

DURING the past month three meetings have been held in connection with the above association. The annual meeting on the 6th ult., when the report and balance sheet presented to the members proved that the association during 1901 had experienced a record year with regard to the attendance, number of members, and financially. Over sixty new members were elected during the year. On the 20th ult. the annual tea and entertainment took place, when over 120 sat down to tea, and about 600 members and friends were present at the entertainment. The first ordinary meeting of the new year took place on the 27th ult., when Mr. E. Fry, of the Gardens, Greenlands, Reading, read a practical paper, entitled "A Chat on the Kitchen Garden." In introducing his subject, he asked the question, "Are we doing sufficient deep digging or trenching, and do we manure enough?" He impressed upon the younger members the fact that it is a duty of every gardener to be able to supply vegetables for the table all the year round, and therefore they should not give all their thoughts to those things that grow under glass, but give a little to the kitchen garden if they wish to succeed in their vocation in the future. Cultured directions and varieties were given on those vegetables the lecturer had found to do well with him. His remarks were made far more interesting by the aid of an excellent series of lantern slides. A good discussion followed, in which Messrs. Stanton, Neve, Judd, Wicks, Exler, Townsend, Wilson, Prince, and Chamberlain took part. Mr. Townsend, of Sandhurst Lodge, exhibited some splendid blooms of *Primula obconica*. Two new members were elected.

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THE IMPROVEMENT OF HARDY FLOWERS.

HINTS ON SELECTION AND HYBRIDISATION.

A BUGLE-NOTE has been sounded to call more amateur gardeners who have time on their hands to take the field in the useful and important cause of experiment. Being confident that it is a course which opens out endless pleasure as well as of possibility, it is hoped that a few words on the subject may be of help to beginners. Certain qualifications are essential, without which attempts are likely to end in failure. A strong love of plants and of working amongst them is presupposed, but this is not enough. There must be infinite patience to endure repeated disappointments—there must be method and careful noting down of all experiments, because haphazard work is mere waste of time and trouble, and there must be the quick eye to observe the subtle differences between the variations which occur in the same species of plant, as well as the wider differences between two species belonging to the same genus.

To the scientist accustomed to the chances of testing and trying there ought to be no disappointment and no failure. His horizon is bounded by fact, and facts are proved as much by failure as by success. The goal of the gardener, on the other hand, is perfection, and here success is only arrived at through many failures and by slow degrees; hence the need of unwearied patience. But we have only to step into the smallest garden to be convinced that the work of the improver and of the hybridist is far from being all failure, for we ourselves have entered into the inheritance of his success. Why then should not we, in our turn, by worthy effort, leave some legacy of improvement or discovery, be it ever so fragmentary, to help to build up the fabric of our neighbour's good?

The appeal to idle folk, which is to be translated, so we are told, into leisured folk, will meet the eye and rouse the dormant enthusiasm of some who scarcely know how to set about such a task. The question will at once arise—How is this work of change and improvement to be carried on? Taking the negative side first, we must conclude that it is not within the scope of even the highest cultivation to effect the sort of progress that is wanted. Turning over old-fashioned

gardening books it is surprising to find how little advance has been made to day upon the cultural methods of our forefathers. It is altogether in another direction that gardening skill and enterprise have taken such remarkable strides during the last half century, and the two arms of the sign-post that point along the roads towards progress are writ large with the directions—Selection and Hybridisation. Two paths therefore lie before us; but for the beginner that of selection is by far the easiest to follow.

There is in the garden some favourite hardy plant, say a Pansy of a particularly fine strain, an Anemone, or a Primrose. The flower in colour and shape is a delight, but it is deficient in some point of habit—the leaves perhaps are scant, or the stalk weak and bends under the weight of the flower; while other varieties by its side have good foliage and sturdy growth though the flowers leave a good deal to be desired. Hybridisation is as yet a sealed mystery, even in its simplest form: but seed can be saved of the flower to be improved upon, sown as soon as it is ripe, and the seedlings carefully watched, without any great difficulty, through all their stages until flowering time arrives. Perhaps there are fifty young plants—out of these, and in all probability the earliest to bloom, there are thirty which may be seen at a single glance to be no improvement upon the plant fixed upon to be bettered. Every one of these thirty must be pulled up from the seedling bed at once, otherwise the next batch of seed will be hopelessly spoilt. Of the twenty plants which remain, some may be fairly pretty, and two or three may even be almost equal to the parent, and it is a question whether these are not too good to destroy. But the road to perfection allows of no turning back, and sternly and without flinching they must be cast out. Two, however, remain the best of the whole batch. They are far from being perfect, but it is clear that they may be kept—the tone of colour in one is new or good—the stalk of the other carries its head well—the leaves, without being coarse, are robust. On the whole, each of them scores as to points, therefore these two may be allowed to ripen a pod or two each of seed, to be placed in separate packets, and numbered to correspond with an entry of full particulars of parentage, &c., in the note-book devoted to the purpose. This new seed should be sown within a week of gathering, which will allow time to dispel all damp that might hinder free germination. The same process as

before has then to be repeated, and in the following season the fresh batch of seedlings will be ready to compare carefully with the parent plants and with each other, and possibly the worker may now begin to feel the way towards some tangible improvement. One single seedling—no more may be—shows such decided advance that all others are discarded and the work of selection is raised to a higher level. All this time the entry of dates and particulars of every kind into the register must not be neglected, to which reference can be made for the solution of any question that may arise, and these entries must be made on the spot, and never from memory, for memory, even of the best, is not to be trusted. The result of painstaking work such as this, season after season, may be seen in the splendid strain of Munstead Hybrid Primroses, and in the gorgeous colouring and size of the St. Brigid Anemones, to mention only two amongst the many invaluable improvements by selection which have been effected by the untiring labours of distinguished amateurs.

It is seldom, however, that the road of selection is long trodden before some by-path leads the way to hybridisation. A chance seedling perhaps in the border betrays mixed origin, and the earnest gardener at once sets to work to fathom the mystery. Plants, let us say, of two different species of Jacob's Ladder—the tall *Polemonium coeruleum* and the dwarf *P. reptans* have been growing side by side. Bees have carried the pollen of one to the stigmas of the other, and in seed so fertilised has produced a cross, intermediate between the parents. This is an example of a natural hybrid, and the track so pointed out may be followed by planting close together two varieties of one species or two species of the same genus, so tempting the bees to do the work of hybridising for us. The seed resulting may or may not be thus crossed—the chances are as many or more against as in favour of it. It may be besides a slovenly way of doing the work at best. Yet strange to say some of the fairest of our garden flowers have been chance hybrids, when all artificial efforts in the same direction have failed, so it is quite open to the veriest beginner to try such a plan.

The real work of hybridisation, however, involves a certain amount of botanical knowledge, though it may be of the most elementary kind. Some idea of the orders of plants, because it is useless to try to hybridise where there is no natural affinity—some notion of

the organs of plants and their uses, so that we may understand how to handle them—this much, at any rate, is indispensable. A Laburnum will not hybridise with a Hazel, nor—when that delicate operation has to be performed—must the stigmas of a plant be removed instead of the stamens. Add to this primary knowledge a practical lesson or two from an expert in the art of transferring the ripe pollen from the stamens of one plant to the stigmas of another, and the novice may start, fairly enough equipped, on his first journey of experiment. Sometimes it is needful to remove the unripe stamens in the bud from the mother plant to avoid self-fertilisation, leaving the styles untouched to mature their stigmas for the reception of the foreign pollen. Sometimes it is advisable to enclose a flower to be treated in a muslin or waterproof paper bag, lest some outside influence come to spoil the cross. In all cases the fertilised flower should be distinctly marked and labelled with the parentage of the hybrid that is hoped for should all go well. We need not perplex ourselves with many scientific terms, but it will be well to bear in mind some of the principles laid down for the guidance of hybridisers by Herr Max Leichtlin, a veteran in this work. He tells us that form and shape of flower in the hybrid come from the seed-bearer and colour from the pollen-bearer. Again, hybrids often give larger flowers and are sometimes more vigorous than their parents. Once more, that crossing becomes harder to effect if the flowers of the parents differ widely in form. And, lastly, that plants of the same genera which exist in countries far apart take each other's pollen with greater difficulty than those whose habitat is in the same district. There are, doubtless, many hindrances in this work of improvement, but it is one of absorbing interest and well suited to those who, for any reason, move but little from home. Otherwise, to ensure care and accuracy, it is essential to have the aid of an intelligent and zealous gardener. If failure come, the advice of the greatest experts is not to be discouraged, but to persevere always, trying again and yet again, crossing and recrossing, until in the end some real success crowns the unremitting effort.

We enclose a copy of a letter received recently by us. On referring to the article mentioned we find the following words used: "Delphiniums. . . . A remarkable break has been obtained by Messrs. Kelway, but although the results cannot be considered great, yet it is possible that from these may be obtained other varieties of greater merit. The idea seems to prevail that a Delphinium should be blue, and if you admit a white or a yellow into your collection it must be a good one. It is, however, a great achievement to get a break of this description. . . ."

We presume that our correspondent takes exception to the remark that Delphinium Beauty of Langport is not of fine quality in itself apart from being a new break. We can only say that we agree with him. The habit of the plant is good, the flower spikes shapely and nicely covered with flowers, and the individual blooms are most handsome in outline and well open, like all up-to-date Delphiniums, and of a pleasing soft white, which may be called ivory or milk white; it is not a cold white or a snow white, and, moreover, has no suspicion of blue. We will gladly lend a block showing a portion of the flower spike photographed if you would like to use it for the benefit of readers of THE GARDEN. There is no doubt whatever about it being a really good plant, and why Delphiniums should be recognised only when they look blue we cannot understand.

The letter referred to is as follows: "I see in THE GARDEN leading article of January 25 words indicating some disparagement of your white and

cream coloured Larkspurs. I think it may interest you to hear that last summer a plant which I bought from you of Beauty of Langport only in its second year had sixteen large heads of flower, nearly all of which were as long, solid, compact masses of blossom as anyone could wish to see. In my opinion this and the other white varieties are of the greatest value, especially as a contrast to the other lovely kinds."—KELWAY AND SONS.

[We should have been pleased to figure Delphinium Beauty of Langport if we had not already done so in THE GARDEN of October 31, 1896, and it is also represented in Messrs. Kelway's manual of this year, page 47.—EDS.]

THIS subject, being in such able hands as those of Mr. Perry, I should not have taken any part in its discussion, but that he has, I think, treated the Lenten Hellebores with scant justice. If Mr. Perry could look back to the very few species—not more than four or five—procurable in England fifty or sixty years ago, and to the total absence of crosses (at least I never saw any in those days), and would compare them with the flowers which have been since obtained by careful and systematic crossing, he could scarcely class them with plants "which cannot be much improved upon." I really know of none more readily and easily amenable to treatment by amateurs; none more certain to show good results from careful selection within certain limits. You know beforehand how to adapt the crossing to the production of new colour in a good shape, or new shape in a good colour, as well as how to improve the general habit of growth.

As to the value of the flowers for their hardiness, time of blooming, and variety of colour, both at home and abroad, they have been the admiration of first-rate authorities, and I confess Mr. Perry astonishes me when he says "they are no good for cutting, and never will be." Why? The display of really well-arranged jars or bowls of suitable colours and forms has, to my knowledge, excited constant admiration, the more so that even a very few years ago they were new to people in general. Then if Mr. Perry means further that they "are no good for cutting" by reason of not keeping fresh in water—formerly it was so, unless, like fainting persons, they were laid on their backs in flat bowls—but under modern practice everyone knows that when the stalks are split up (and the further the better) Hellebore flowers will keep good and fresh for a week or even ten days.

I trust that no discouragement will prevent young amateurs from endeavouring still further to develop the capabilities of these lovely flowers.

T. H. ARCHER-HIND.

Coombefishacre, South Devon.

COLOURED HELLEBORES.

I VENTURE to think that Mr. Amos Perry (page 70) is not quite accurate in saying that Oriental Christmas Roses, by which he means, I presume, the various hybrids of Hellebores orientalis, H. abchasicus, &c., are quite useless for cutting. Certainly if placed in water straight away they will fade in a very short time, but if the stem is split up for a couple of inches and the whole soaked in a basin for a while before placing in the vase the result is very different. Thus treated they will last quite ten days or even more in perfection, which is as long or longer than most other cut flowers last, and, as they flower freely in the open ground in January and February, need no care or protection of any kind, and annually increase in size and amount of flower produced, they are in my opinion one of the most valuable flowers for cutting we have. Their blossoms being more or less pendulous, their beauty cannot be seen at all in the border, and it is as cut flowers that the charm of their peculiar soft colouring can be properly appreciated. They are often called Lent Roses, but here (Dublin) they usually are in perfection in January, and are over before Lent. They will be almost all gone this year before Shrove Tuesday, although Lent is unusually early.

GREENWOOD PIM.

NOTES OF THE WEEK.

Tree and shrub photographs.—We shall be grateful for any photographs of trees and shrubs that may be sent to us showing the beauty of grouping, individual examples, and their value in the garden and pleasure ground. The gardens of England are full of beautiful trees and shrubs, sometimes of an age that renders them more picturesque and interesting than in the earlier stages of growth, and if possible we wish to get photographs of these.

Violets and their culture.—Many letters have been received asking for a series of articles on the cultivation of Violets. We shall publish these as soon as possible.

Viola Bluebell.—I notice Mr. Dean's remarks in your paper about Bluebell Viola. One would suppose from his remarks that the variety is the best one, but I wonder if he knows or has seen a bed of Councillor Waters, a deep purple-blue. Mr. Dean says he has read in THE GARDEN pages of flowery descriptions of Violas, too often written up in the interest of one or two raisers. Mr. Dean is quite wrong, and I challenge him to produce or name three more useful or beautiful Violas than Councillor Waters, purple-blue; Nellie Riding, deep yellow; and White Beauty, white. They are considerably dwarfer than those he mentions, quite as free flowering, and considerably finer flowers, and have often been mentioned by the writer Mr. Dean speaks of.—W. SYDENHAM, Tamworth, Staffordshire.

Experiments in hybridising.—In an article in the Standard of February 3, dealing with natural crossing among plants, some interesting remarks are made upon experiments carried out in Messrs. Sutton's grounds at Reading. We read that "about two years ago Mr. Sutton was surprised to see in a public print statements, by an agricultural authority who had had some experience in seed growing, to the effect that all the trouble he had taken to isolate various cruciferous seed-crops in the past was, probably, unnecessary, because it now appeared that they would not cross-fertilise naturally. Apparently, he based this conclusion upon the statements of some experimenters in artificial crossing, to which he was referring. Mr. Sutton knew that cruciferous plants would be particularly liable to cross, and to spoil each other, if the care thus pronounced unnecessary ceased to be taken, and, therefore, he determined to carry out a demonstration, not to satisfy himself, but to prove to doubters that plants of the Cabbage tribe would cross naturally with the utmost freedom when grown for seed side by side. Accordingly, at the beginning of 1900 he planted in a seed-bed one plant each of Dwarf Green Curled Kale, Brussels Sprouts, Broccoli, Red Variegated Kale, Purple Curled Kale, Thousand-headed Kale, Portugal Cabbage, Giant Drumhead Cabbage, Sutton's Favourite Cabbage, Dwarf Blood-red Cabbage, and Drumhead Savoy. The seed of the plants was saved separately, and carefully sown in the spring of 1901. From the plants thus raised two transplantings were made, each of about forty plants. In one transplanting the plants were taken without any selection, while in the other as many diverse forms as could be picked out from the appearance of the leaves were chosen. The results, now that the plants are mature, are so remarkable that they could hardly be imagined by anyone who has not seen them. It is no exaggeration to say that the crossing among these several varieties of cruciferous plants, by natural agency, has been as profuse and intricate as it could have been rendered by the most ingenious human manipulation. The results of the interesting experiments are still to be seen in Messrs. Sutton's trial grounds, within a mile of Reading."

Propagating Tree Pæonies (page 86).—The Rev. Canon Ellacombe writes: "I should like to know something more about this. Herr Max Leichtlin is undoubtedly right in saying they are grafted on P. albiflora, but the Japanese must have some way of grafting on P. arborea, for I am often troubled with suckers from the stock which are clearly P. arborea and very different to the scion."

Lotus peltorhyncus.—This is a peculiar and most desirable greenhouse—or perhaps semi-hardy—plant, and one seldom seen and apparently but little known, if one may judge by the very few allusions to it in a journal like THE GARDEN. It has been well described as a grey-green Asparagus, and hangs, if grown in a suspended pot or basket, from 5 feet to 6 feet, in delicate sprays of bluish-grey needle-shaped leaves, most graceful and pretty if it never flowered. But it does flower, and seemingly very profusely, and the blooms are very like the lobster-claw plant *Clianthus*, not so big, but very large in proportion to the plant and as compared with other species of *Lotus*. They are a deep rich Indian red, and contrast charmingly with the grey foliage. It would probably be hardy on a dry sunny rockery where its roots could be moist, as from its grey colour it is evidently a native of hot dry regions, and yet it is impatient of drought at the roots. It is now in flower in an ordinary greenhouse and has multitudes of buds to follow.—GREENWOOD PIN.

“Italian Delight.”—Apropos of *cotognata* I wish to point out that your correspondent seems to have had it in the most expensive way possible, as the half kilo can be sent from Italy to England for the same price for packing and postage as for 1 kilo. Here in Florence I am accustomed to pay 3 francs per kilo for very excellent *cotognata*. We prefer it without the rose flavour and colouring, but it can be had with these for the same price. For 4½ kilos, equal to 10 English pounds, the price is 13 francs 50 centimes; adding the price for packing and sending in a small wooden box the whole amounts to 18 francs for 10 English pounds.—TUSCAN.

Primula Double Duchess.—The accompanying illustration is of a new *Primula* raised by Messrs. Sutton and Sons, Reading; it is a double form of the *Duchess*, to which an award of merit was given by the floral committee of the Royal Horticultural Society on January 28. One cannot say more in its favour than to state that it possesses all the good characteristics of the *Duchess*—a single variety.

Notes from Wisley.—We have had in the drawing-room here for more than two months in a tall green glass vase about 2 feet high a quantity of sprays of the flowers and seeds of *Polygonum compactum*, the only one of its family which I know keeps itself at all within bounds. This has been admired by visitors, and as the only attention it has required is an occasional change of water I think it is perhaps worth a note. There must be many places where a pretty and lasting shrub requiring no care would be useful. I have sent you a few sprays to show how well it lasts, but fear that many of the seeds will be shed on the way. *Iris Histrioides* has now joined the other early *Iris*es, most of them are grown in a cold frame, but others in the open border protected by fir boughs or a coop in frost. A large bank of early-flowering *Cyclamens* is now very pretty, and a plant of *Daphne Mezereum grandiflorum* is covered with bloom.—GEORGE F. WILSON. [The sprays of *Polygonum compactum* in seed, kindly sent by Mr. Wilson, show how good and lasting a room ornament they are.—EDS.]

Rose Provincialis Pomponia.—A charming bed of *Roses* labelled thus was a feature at Kew Gardens last summer. It is doubtless an old *Rose*, but it was new to me, and to all appearance decidedly worth growing, even if only for its tiny little rosy pink blossoms no larger than a sixpence. It may be that this *Rose* is a

selected form of the miniature *Provence de Meaux*, certainly as seen it was much smaller than the last named. What an excellent thing it would be if the Kew authorities sought out more of these delightful if somewhat old varieties. Might I suggest a group of the best varieties that were cultivated in the early years of the Victorian era. To many this would be a source of pleasure and instruction, especially if some of these old *Roses* were cultivated as they were in those days.—P.

China Rose Ducher.—Good white bedding *Roses* are somewhat scarce, and a white monthly *Rose* should find much favour on that account. *Ducher* is really a charming variety without the usual blush shading that many white *Roses* possess. It is a first-rate grower, throwing up successional shoots with great freedom. Is it not remarkable that the value of the *Bengal* or *Chinese* as bedding *Roses* has not been discovered until now? Probably they were never so largely planted as they are to-day. The beautiful tints of *Mme. Laurette Messimy* and *Mme. Eugène Resal* and the brilliancy of *Cramoisie Supérieure* and *Fabvier* help not a little in the revival of the group. These *Roses* when potted up into 6-inch pots early in autumn and plunged outdoors

private gardens, too, we can well do with more variety, especially when the addition is so excellent. As its name implies, the new *Sugar Bean* belongs to the dwarf section, and, though the plant is dwarf, the pods are long, roundish, or very fleshy and succulent, and the flavour distinct from that of the ordinary dwarf French variety. The colour is a deep green, and when full grown the *Bean* is remarkably tender, being much softer and more succulent than others. On the Continent the *Sugar Beans* are much appreciated, and as they produce abundantly if given ample space their introduction into this country should meet with favour. This kind of Dwarf *Bean* ages quickly, but resists drought better than some of the older ones. This new variety differs from others in being so much earlier and such a free bearer. Of course they may be cooked in the same way as the older varieties, but I think they are better gathered young and cooked whole.—G. W. S.

Pear Le Lectier.—This *Pear* was staged in good condition at a recent meeting of the Royal Horticultural Society by Messrs. Veitch, Limited, of Chelsea. The fruits had been grown on pyramid trees at their Langley Nursery, Slough, and though not put up for an award would no doubt have received one, as the flavour was excellent and the fruit was large and handsome, and, of course, most valuable during the winter. My object in sending this note is to point out that *Le Lectier* has not been introduced many years, and one nurseryman, who has grown it in various ways, thinks highly of its good qualities. It is a variety thoroughly worth growing, as it may be kept sound until February; indeed, I have seen it shown in March, but I have never kept it good so long. I do not know any variety that fruits better in cordon form on the Quince stock. We have also got it trained on walls, but doubtless in most gardens it will do well in the open.—G. W. S.

Hardy Nelumbiums.—Several very striking illustrations are given in “*Möller’s Deutsche Gartner Zeitung*” of *N. pekinense rubrum* and *N. luteum* growing in the open in ponds in Croatia, where they have withstood several winters, although the temperature often falls to 20° Reaumur or

to 45° of frost Fahrenheit. The only precaution taken appears to be a sufficient flooding in winter to prevent the ice reaching the rhizomes. One of the illustrations depicts leaves and flowers 9 feet to 10 feet high, from which of course the depth of the water has to be deducted in considering the actual effect among other water vegetation. Growth only starts in June, but is then very rapid and strong. The first-named species is the stronger.

Winter-blooming Cannas.—In order to obtain flowers through the winter outdoor plants should be carefully lifted in the autumn, when many flower stems are usually thrown up only to be checked by the frost. After removing the lower leaves to prevent decay, pack them tightly together and place in a warm house; they will then grow and flower freely. Drip must be avoided, as the chief risk is damping-off of the flowers and spotting.

Landscape photography.—In *Die Gartenwelt* of January 25 is a very interesting article on the use of photography as an aid to the constructive landscape gardener; it points out that the focus of most lenses gives a different perspective effect to that visible to the eye, and that consequently sketching in skilled hands affords in many cases a far better guide where it is desired to imitate natural groupings. The photograph in



CHINESE PRIMULA DOUBLE DUCHESS.

are useful the following summer and autumn, and may afterwards be used to beautify the conservatory with their dainty blossoms.—P.

Arranging Snowdrops.—Everyone has their own way of arranging flowers, but my way of setting up *Snowdrops* may be a useful hint to some who have not thought of it. I use a deep dish or shallow bowl about 4 inches deep. An inch of small stones is put at the bottom, then tufts with roots of wild *Snowdrops* showing flower-bud are packed in with sandy earth to within half an inch of the top, and water is poured in till the earth is semi-fluid. A carpet of moss is then laid, and the large gathered *Snowdrops* (*Elwesii*) are dibbled in amongst the growing ones in as natural a way as possible. My painful has been an indoor scrap of woodland for over a week. Now the wild *Snowdrops* are coming out and the soft blue foliage is quite long. What I use is an old dish of *Spode* ware some 11 inches to 12 inches long by 6 inches wide and about 4 inches deep.—A. BAYLDON, *Dartlish, Devon*.

A new Sugar Bean Sutton’s Dwarf.—*Sugar Beans* are not much grown in this country, but why not I fail to see, as small pods are far preferable to the sliced stringy *Beans* one often sees in restaurants in this country. In

fact gives quality of detail in place of general quality of effect, which the draughtsman can better appreciate and reproduce without the foreshortening and exaggeration of foreground details which the use of the camera involves, and may easily lead to failures in effect when imitative work is based thereupon. Both methods have their virtues, and the general gist of the article is the advocacy of both on judicious lines.

The Prickly Pear in Australia.—The Department of Agriculture in Queensland offers £5,000 for the discovery of some means to eradicate the Prickly Pear. It stipulates, however, that the cost per acre shall not exceed a reasonable sum. This is a necessary condition, for humourists or dullards might suggest digging it up and claim the reward on the strength of that happy thought. Certainly, it is time something was done, not in Queensland only. The spread of Aloes and Yuccas is astonishing enough, but they bear seeds which the wind might carry to a great distance. One would think that the seeds of the Prickly Pear enveloped in dense pulp would lie where they fell, unless transported by birds, whose flight would not be very long. But the terrible Cactus is travelling over the world with unaccountable speed. It is a nuisance in India, a pest in South Africa. There are complaints in the Soudan, and we hear of it in Uganda. The thing is not altogether without virtue. Thrown upon the fire for a moment to burn off the spines, it may be mashed into a food for horses or cattle, very valuable in times of drought. But this service is not required every day, whilst the mischief it does is incalculable. In thinly peopled districts it has entirely stopped the roads, compelling travellers to circle around the growing mass.—*Evening Standard.*

About Shallots.—I can fully bear out the statement made by "A. D." on page 36 that the Shallot is a highly prized vegetable in cottage gardens. I visited some hundreds of such gardens and allotments last summer, and in the majority of them this crop was represented. Not always in good form, however; and I think the mistake of growing from the same stock too long is very often made. The common practice is to save a portion of the bulbs for planting in the spring, but unless a change is made occasionally the size of the bulb and weight of the crop grow less in a few years. I am surprised that more Shallots are not raised from seed. In the spring of 1900 I sowed a packet of the variety Jersey Lily and got an excellent crop of bulbs, firm and quite large enough for pickling. From these I obtained a number of bulbs for planting last March and got a capital return. I am therefore disposed to think that if growers would make a change sometimes, in favour of raising their Shallots from seeds and planting the bulbs the following spring better results would be obtained.—G. H. H.

The vast business of flower growing forms the subject of a long and profusely illustrated article by Edith Davies in *Everybody's Magazine* (New York). It is an account of the flower trade of that city. In a prefatory note it is mentioned that New York is the world's greatest flower market; twelve years ago the trade in plants and cut flowers was inconsiderable, to-day it is estimated to exceed in value 5,000,000 dols. annually.

A good and useful winter Pear.—I have ventured to give this double title to a Pear not as well known as many others, viz., *Beurré Bachelier*. It is fairly large, handsome in appearance, clear skin, green at first, changing as it ripens to lemon-yellow, sweet, buttery, and melting flavour. It has been in use here during the whole of January, a period of the year when good Pears are scarce, the December varieties being over, and the late ones, such as *Easter Beurré*, *Olivier de Serres*, and *Beurré Rance*, not yet ripe. It is a free bearer both on walls and as a pyramid. Had it not been for this and another old-fashioned Pear, *Passe Colmar*, I should have been almost without this useful fruit during January, *Josephine de Malines*, a very reliable Pear for January and February, having failed to produce any fruit last year. I have nearly fifty kinds of Pears here, and for flavour this season and last I should place

Beurré Bachelier in the first dozen, if not in the first half dozen. Unlike some other Pears, it does not go suddenly sleepy or rotten as was the case with *Glou Morceau*, a Pear very like it in flavour, of which this winter I lost half through trying to keep them into January. Mr. Bunyard, Maidstone Nurseries, does not put it in his catalogue, so I ventured to send him a ripe one to taste, and in reply he says: "I never tasted this Pear better than the one you sent"; "but," he adds, "it is of no use in a wet and cold season." On this latter point I should like to have the opinion of some of your readers who have grown it, perhaps Mr. Thomas or Mr. Wythes would state their opinion. It should be placed in a little warmth for a few days before eating, and also the skin peeled off, as this has a bitter taste. The trees are on the Pear stock in good holding loam.—B. ADDY.

Ageratum.—I observe that "A. W." does not seem to approve of dwarf *Ageratum* for bedding purposes. Certainly some have always been very unsatisfactory. I do not know whether he has ever grown the dwarf and free-blooming variety known as *Perle Blue*. Mr. Turton used to employ this variety at Maiden Erlegh with remarkable success, never having a single failure. The plant in full bloom does not exceed 6 inches in height. I think Mr. Turton still has a stock of it at Sherborne Castle, Dorset. His method of propagation is to cut off the flower stems in the autumn, to lift such plants into pots and winter them, then putting them into gentle warmth in the spring to obtain plenty of cuttings, and, of course, very soon plants. The flowers are of a charming soft blue, and make singularly effective edgings or lines.—A. D.

***Pyrus arbutifolia*.**—I was much interested in the article on "A Beautiful Berry Shrub" in *THE GARDEN* of January 18, page 40, but while thoroughly endorsing all the writer says with regard to *Pyrus arbutifolia*, I have never seen the birds leave the fruits alone in this country, whatever they may do in America. I have always found the fruits of this plant and of *P. nigra*, a closely allied species, are invariably attacked as soon as they are ripe, which is to be regretted, as otherwise they would be two of the most charming of our smaller berry-bearing shrubs. Perhaps in some district where the sparrow does not exist—if such an ideal spot could be found—the berries of *P. arbutifolia* and probably of other plants might be left alone, as I have noticed on several occasions that the sparrow leads the way in attacking any new or strange fruit, and, if it is found palatable, the other birds quickly follow suit.—J. C., *Bayshot, Surrey.*

***Campanula isophylla alba*.**—Few plants do so well in a window as this pretty Bell-flower. It is also a good plant for the cool conservatory, as when suspended the long drooping racemes of pure white flowers completely cover the pot or basket, whichever it is grown in. Though more suitable for suspending, it may be tied up and grown on the stage. It is a very free growing plant, but requires a little care in propagating. The present is a good time to get cuttings. I find when put in the close propagating pit they are inclined to damp off, and have succeeded best on the open stage in a warm house, but they must not be exposed to too much air. The cuttings may wither a little at first, but they will revive again after they are callused. If three cuttings are rooted in a small pot they may be potted on into 5-inch pots without disturbing them, and if stopped once will make good plants for flowering the same season, but there is hardly time to make good plants in one season when grown singly. It succeeds best in a shady position, and the finest specimens I have ever seen have been in a cottage window facing north, and in such a position they continue in flower much longer than in a sunny warm one. As an outdoor plant it also does well, and may be recommended for window boxes, or in suitable positions on the rockery. The pale blue flowered *C. Mayii* is a suitable companion to the above, and succeeds well under the same conditions. *C. balchiniana* is a very pretty variegated variety, the leaves having a silvery white margin. I do not know the origin of this *Campanula*, but it was

introduced several years before *Mayii*. Last year a plant sported or reverted to the green form, and when it flowered it proved to be identical with *Mayii*, and this season I have found a good many green shoots which cannot be distinguished from those of *Mayii*.—A. HEMSLEY.

KITCHEN GARDEN.

EARLY BROAD BEANS UNDER GLASS.

MANY growers may get dishes of Broad Beans some time in advance of the outdoor crop if seed is sown in pots or boxes under glass, and then planted out in rich soil some time later on. I am aware many growers have of late years sown fewer Broad Beans in the autumn in the open ground than formerly. This is readily explained, as with more glass erections it is easy to raise an early crop of this vegetable under glass and plant out in March. I prefer plants raised thus, as there are no losses, the labour is small, and the results are good. I have named pots or boxes as suitable. I think the former should be preferred, as the roots are not disturbed when planting, though I have had very good crops from box plants. The seed should not be crowded, and, when planting, take out the roots carefully with a trowel to prevent injury. If small Beans are liked, the old *Mazagan* should not be despised, but I find the *Early Green Longpod* quite as early and crops splendidly. There is a gain in starting Broad Beans under glass, as they show flowers so quickly and are much dwarfer, so that they may be planted closer together. S. H. M.

POTATOES ON STIFF SOILS.

It is not possible to forecast weather conditions for a season. Could we but do so how very diverse often might be our procedure. I once was fortunate enough to secure a splendid crop—probably the finest crop I ever lifted—of Potatoes on stiff, retentive land by burying down under the rows in the spring a fairly heavy dressing of half-decayed manure. The result was that this dressing, lying quite beneath the tubers, acted as a drain, allowing surplus moisture to pass away from the roots rapidly, yet leaving ample for fertilisation. Should the season prove to be a hot, dry one, the plan might not result so satisfactorily, but the chances are generally that it will turn out well. The planting of Potatoes is commonly done early, and habitually early, the soil being far too cold for the reception of tubers that are to produce warmth-loving plants. It is best to have ground—and especially stiff, cold ground—in a condition of semi-preparation, so that when the season for planting comes the work can be proceeded with rapidly. When, further, seed tubers have been prepared by being sprouted properly, and can be taken in shallow boxes to the place for planting and be there deposited in the ground without breaking off the shoots, there is as much forwarding of growth accomplished out of the ground as could well have been had the planting been done fully a month earlier. The preparation of the ground should be done in the winter, throwing it up into sharp, rough ridges 3 feet wide. If that enables the soil to become more readily dried, aerated, or pulverised by frost, it also exposes a larger surface to the influence of the sun in the spring than can be the case when the soil lies flat. Then, if planting be deferred till late in April—a good time for strong-growing or main-crop Potatoes—so much the longer is the ground thus exposed to the benign influence of the spring sunshine.

Taking advantage of dry March winds or frosts, it is a good plan to place a dressing of animal manure in a half-decayed condition along the furrows. That should be a liberal one. Then, using a long, flat-tined steel fork, the manure should be dug in and well buried. The result is

that beneath the tubers when planted there is ample food for the roots, ample drainage, and a good depth of well-broken soil. At planting time drills as for Peas may be drawn with a hoe 2 inches deep, and into these carefully place the seed tubers at intervals of not less than 15 inches. Where practicable, a mixture of wood ashes, kainit, bone-flour, and soot should be liberally dusted along over the sets, then the sides of the ridges forked down, covering the tubers 4 inches thick with soil. It is difficult to get through the work of planting in such stiff soil more rapidly than thus can be done, and it is well done also.

By the time the plant growths are well through, some five weeks later, the soil will have become warmer and drier, and then that which remains of the former ridges and has been trodden upon can now be well forked up and broken to pieces preparatory to being used for moulding up. This forking also greatly stimulates top-growth, and is thus doubly beneficial. When Potatoes are so treated, how rarely are there breaks in the rows, and how free and vigorous the growth. When, too, the rows are as wide apart as 3 feet there is both ample room for the forking and for the following moulding up, and that should always be done well. When good width between rows is furnished, plants and leafage have abundant room for development, and as a result the crop is greater. Thus seed tubers are saved and the produce of those planted increased. A. DEAN.

ROSE CELESTIAL.

THIS charming garden Rose, commonly known as Celestial or Celeste, is classed with the albas, to which its relation may clearly be seen in the broad bluish foliage. It is much like the old garden Rose Maiden's Blush, but even prettier, the half-opened bud being specially lovely.

TREES AND SHRUBS.

SHRUBS UNDER TREES.

MANY people are often puzzled what to plant under or near large trees to hide the bareness of the ground or to shut out some undesirable view that can be seen beneath the lower spread of branches. For this purpose evergreens are mainly desired, though a few of the deciduous flowering shrubs can be worked in to relieve the sombreness of the evergreens. The kind of tree under which the planting is to be done must be taken into account, as trees vary to a certain extent in rooting as well as in the shade they give in summer. This affects to a great extent the well-being of the plants grown under them. Such trees as Oak, Ash, Plane, Birch, Horse Chestnut, &c. are inclined to root deeply when they have attained a fair size, and do not interfere directly with anything under them, although they naturally take a great deal of moisture from the ground. On the other hand, Beech, Elm, Lime, Sycamore, &c. are more surface-rooting, and their roots may often be found entangled with and gradually killing any plant growing near to them. The first two are the greatest offenders in this respect, grass often refusing to grow under old Beeches or Elms. A few good soakings of water in dry weather are very beneficial to shrubs or anything else under trees, and care should be taken that they are thorough soakings, as mere surface watering is worse than useless. The spread of the branches of large trees should also be noted in



ROSE CELESTIAL. (From a photograph by Miss Willmott.)

the summer time, as it may be desirable to remove some of the lower ones to allow a certain amount of light and air to whatever is growing beneath. It is important to note the branches while the leaves are on, as the end of a large limb may be 2 feet or 3 feet lower in summer than in winter, the weight of the leaves making a perceptible difference to large branches. In cutting away a large limb saw it upwards from beneath for at least a quarter of the distance through before cutting it down from above, as otherwise it breaks from its own weight when partly sawn through, and will probably tear a large piece away from the main stem. The cut should be neatly trimmed if at all rough, and be well tarred over to keep out the wet.

The best of the larger growing evergreens to use under trees are Laurels, both common and Portugal, Yews, Box, Osmanthus, Aucubas, Phillyreas, common and oval-leaved Privet, Ligustrum sinense, and Rhododendron ponticum. Of these Yews, Box, and Osmanthus do perhaps the best of any. The Osmanthus is not usually considered suitable for this purpose, but it succeeds well in the shade, and keeps a good dark green colour. Hollies are sometimes recommended, but, though they may occasionally be a success under trees, it is not advisable to use many of them, as they are more often a failure, becoming thin and straggling in the course of a year or two. Of dwarf-growing evergreens Berberis Aquifolium, Butcher's Broom (*Ruscus aculeatus*), Cotoneaster microphylla, Eonymus japonicus and *E. radicans*, with their respective varieties, Skimmias, Gaultheria Shallon, Ivies, Pernettya mucronata, St. John's Wort (*Hypericum calycinum*), and Vincas can all be recommended, as they all do well in the shade, and most of them will flower freely.

For a very dry spot where nothing else will grow the Butcher's Broom and St. John's Wort should be planted, as both will grow and thrive where other plants die. With deciduous shrubs under trees the difficulty lies not so much in getting them to live as in inducing them to flower, but a few of them will do well in the shade, and, as a rule, bloom freely. Of these the best are the common and White Brooms, Azalea pontica, Genista virgata, Philadelphus, Forsythias, and Daphne Mezereum. The shrubby Spiraeas may also be used sparingly in a fairly light and open place, though plenty of sun is required as a rule to enable them to flower properly. In addition, though their flowers are insignificant, Cornus alba, with its red stems in winter, the Snowberry (*Symphori-*

carpus racemosus), which is laden every year with white berries long after the leaves have fallen, and the Golden Elder are all worthy of a place and will give satisfaction.

Bagshot, Surrey.

J. C.

CROCUS FLEISCHERI.

SOME Crocuses produce both flowers and leaves together, and in others the leaves follow the former. Each of these broad classes has a beauty of its own. In the one case there is the charm of the graceful grassy leaves appearing among the flowers; in the other there is a greater mass of unbroken colour. Each has its own admirers, but I confess to a special liking for those species which give us their leaves and flowers together. Among these one of my favourites is *Crocus Fleischeri*, a small species not half so well known as it ought to be. It is not fair to judge this little plant by the standard of the great Dutch Crocuses which glow in our gardens in the later months. In size it is inferior to them; in breadth and in roundness of segments it is wanting, while it cannot give us the great masses of colour that they yield. It gives no "cohorts of purple and gold," for its colouring is pleasing rather than showy. Instead of the great massive blooms of the Dutch Crocuses we have small pointed segments, yet so beautiful and so chaste are they as they open to the earliest sunshine of the new-born year that they delight us more than the others. A clump here which opened on January 22 was worthy of more than a passing glance with its warm, creamy white blooms peeping smilingly through the narrow leaves. As usual, Mr. George Maw gives a full description of this *Crocus* in precise terms. Briefly summarised, these tell us that it belongs to the *Intertexti* section, i.e., that its corolla is composed of plaited or stranded fibres. Its leaves appear before, and reach above, the flowers finally attaining a length of about a foot. They are very narrow, from 1-30th to 1-24th of an inch broad. The throat is unbearded, yellow; the segments are white, acute, the outer being marked with three purple lines at the base, the central one reaching to the end of the segment. The anthers are orange, and the longer stigmata are brick-red, while the seeds are a rosy red, deepening to dark chocolate. The botanical descriptions—abbreviated though they are—are a little tedious to those who love the *Crocus* for its beauty alone. It is quite hardy here, where it has

now been grown for a good many years, and it increases well, though there have been a good number of calls upon it for the gardens of friends. Year by year this Syrian Crocus seems to grow more acceptable.

Cursethorn, by Dumfries, N.B. S. ARNOTT.

THE WEATHER.

THE USE OF THERMOMETERS, &c.

NOTHING in a fickle climate like that of the British Isles has so great an influence on garden plants as the weather. According to an old proverb, "Tis not the husbandman but the weather that makes the corn grow."



View taken in the Meteorological Enclosure, Royal Horticultural Society's Gardens, Chiswick, showing the Stevenson Thermometer-screen and the Six's Thermometer mounted on a post.

Sometimes the conditions are favourable, but more frequently the reverse. Knowing this the cultivator of a garden should be prepared for all emergencies. On the one hand, to take advantage immediately of any favourable weather that may occur, for he never knows the length of time the favourable spell may last. On the other hand, he must be equally keen to note the approach of any exceptionally adverse conditions. For instance, a severe gale will show him the necessity of really firm staking, a severe frost how advisable it is to afford protection to delicate plants whenever exceptionally cold weather threatens, a dry spell in summer the necessity of a timely

watering, mulching, or hoeing. Open weather in the autumn or winter should remind him of the importance of seizing that occasion to do any planting, digging, or trenching that may then be required, for if at that time of year the opportunity be neglected the soil may afterwards remain unworkable either through wet or frost for weeks together.

Now scarcely anything will keep any lover of his garden more fully alive to these favourable and unfavourable weather changes as taking daily a few meteorological observations. The outfit in the way of instruments need be but small and inexpensive. The two most important instruments are a self-registering maximum and minimum thermometer and a rain-gauge.

TEMPERATURE.

Of all the influences brought to bear upon vegetable life by the atmosphere, that of temperature is the most powerful and far-reaching. If in this country there were a gradual rise in temperature from the middle of January to the middle of July, and as gradual a decline after the hottest part of the year had been reached, no thermometer observations would be needed; but, as every gardener knows, this is far from being the case, the tendency being nearly always towards too great or too little warmth. There are many

FORMS OF THERMOMETERS,

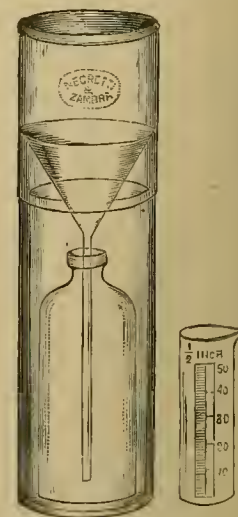
but for gardening purposes the most simple and suitable is that known as a Six's Thermometer. It is an upright thermometer, which registers on one side the greatest heat experienced during the day time, and on the other the greatest cold at night. A post 5 inches square and painted white should be driven firmly into the ground until the top of the post is 3 feet 6 inches above the lawn or grass plot over which the thermometer is intended to be suspended. A position well away from trees or buildings is the best for the exposure of the instrument. The sides of the post must face north, south, east, and west, and from near the top on the north side should be suspended the thermometer. To protect the instrument from the early morning and late afternoon sun some strips of wood painted white and three-quarters of an inch thick should be screwed to the east and west sides of the post. These flanges should project 3 inches beyond the north face; and secured to them and also to the top of the post should be a piece of zinc to keep off the rain from the upper part of the thermometer. For this purpose both the post and the flanges must be made sloping at the top on the north side. A thermometer mounted after this simple and excellent fashion can be seen in the meteorological enclosure in the gardens of the Royal Horticultural Society at Chiswick. Two words of caution: In buying a Six's Thermometer it will be well to select one which reads exactly alike on each side; and until the instrument is suspended on the post it must always be kept in an upright position.

At the same hour each morning the readings should be made. The minimum temperature should be entered in a note-book ruled for the purpose against the date on which the reading is made, but the maximum temperature must be put down to the previous day. After the temperatures have been entered in the observation book, the magnet supplied with the instrument should be used to draw down the index on each side to the top of the cushion of mercury, for this thermometer is not, as is generally supposed, a mercurial, but a spirit thermometer. When suspended all that

remains is to insert two small screws into the post sufficiently close to the lower part of the instrument to prevent it from being shaken by the wind. A sufficiently large Six's Thermometer for the purpose can be obtained through an optician for about 10s. or 12s.

RAINFALL.

This is easily measured, and the records will be found of considerable interest and value, as the welfare of our garden crops depends so much upon the supply of rain being at all times proportionate to their requirements. No artificial watering in summer can ever take the place of rain, as the latter invariably brings with it a moister, cooler, and consequently, as regards plant life, a more genial atmosphere. A 5-inch Snowdon pattern rain-gauge made of galvanised iron can be obtained of Messrs. Negretti and Zambra, Holborn Viaduct, London, E.C., for 12s. 6d., measure included. It should be set up in an open space at least as many feet away from buildings, trees, &c., as they are in height. It must be securely fixed in position by means of three small stakes firmly driven into the ground closely round the gauge, but the stakes should not rise higher than where the funnel fits on to the lower part



A 5-inch Rain Gauge. (Snowdon pattern.)

of the gauge. When fixed the rim of the gauge must be perfectly level and be exactly 1 foot above the grass plot on which it is placed.

Each morning the gauge should be examined at the same hour, and any rain found in the receiver emptied into the measuring glass, and the amount entered in the observation book. It should be here stated that the amount should not be entered against the day on which the measurement is made, but against the previous day, as a "rainfall day" ends at 9 a.m.



A Six's self-registering maximum and minimum Thermometer

In times of snow the snow collected in the funnel of the gauge should be melted by pouring upon it a measured quantity of warm water, and this quantity be afterwards deducted from the total measurement.

EDWARD MAWLEY.

WORKERS AMONG THE FLOWERS.

GEORGE ELLWANGER.

Few American horticulturists are held in higher esteem than the subject of our sketch, Mr. George Ellwanger, of Rochester, who, as long ago as 1835, left Europe to seek fame

and fortune elsewhere. His son, Mr. G. H. Ellwanger, writes to us as follows: "My father was originally a vineyardist, and came to this country in February, 1835, when, after spending two years in the seed establishment and greenhouses of Messrs. Reynolds and Bateham in this city (Rochester), he purchased the business, and in 1838 founded the Mount Hope Nurseries. In 1840 Patrick Barry became my father's partner, the partnership continuing until Mr. Barry's death in 1890."

Mr. Ellwanger's activity is remarkable. Although of advanced age, he is still engaged in his nursery as well as in other directions, and throughout the States his name is widely known and honoured. We take the following appreciative extracts from an American journal: "In locating in Rochester he showed the wise judgment characteristic of his life. It was the place, before all others, for success in the cultivation of trees, for which there was already an increasing demand in the rapidly developing country. . . . Of Rochester's many great special industries, each contributing to the distinctive individuality of the town, none has done more to make the flower city what it is than the Ellwanger and Barry nurseries. A leading speciality of the house, before a railroad had been built to California, was created by the demand for trees there. The selection and packing for the long voyage, with the possibility of a detention on the isthmus, meant great risk, demanding careful oversight and scientific precaution. The Ellwanger and Barry trees soon had a wonderful reputation on the coast, and when George Ellwanger first visited California some forty years ago he was given the honours of a public benefactor. . . . That he is beloved and honoured as a representative citizen is too well known for repeating now." And we may add also that philanthropy and kindly deeds are among the traits of a fine character, while we must not omit to mention the many good horticultural works which have been written by Mr. Ellwanger and his sons.

NOTES ON HARDY PLANTS.

SOME LITTLE KNOWN HARDY ORCHIDS.

AMONG hardy perennials the Orchid family undoubtedly contains some of the most interesting and beautiful, foremost being the Cypripediums, which are consequently the best known. Less known, however, though nearly as pretty, are Aplectrum, Arethusa, Bletia, Calopogon, Calypso, and several of the genus Habenaria. As a rule they are of fairly easy culture, growing well in leaf-mould or peat mixed with sphagnum moss and well protected by shrubs and trees, or if these are wanting they will also grow in a shady bed sheltered from cold dry winds as well as the hot sun, and though preferring a fair amount of moisture it should not be stagnant, especially during the winter months.

Aplectrum hyemale.—This exceedingly interesting plant has a peculiar rhizomatous or bulbous rootstock, the new bulbs being formed annually almost on the top of the old one, which remains quite fresh and green for two or three years, the plant showing therefore quite a series of bulbs, of which, however, only the upper one is really

growing. In late summer or early autumn it produces a rather large growth for such a small bulb, the leaf is ovate or lanceolate, nerved and distinctly plaited, usually purplish green. It decays about the end of April or May, when a scape about a foot or 18 inches in height is thrown up, bearing a raceme of brownish flowers with a white lip spotted deep purple. Only a single species is known. A native of North America, and though local is said to be plentiful.

Arethusa bulbosa.—This rare and beautiful Orchid has a small greenish bulb which produces during the early spring a solitary linear leaf 3 inches to 4 inches long, and in May a scape bearing a single flower. The flower is from 1 inch to 3 inches long, having a large dilated lip of bright rose or rosy purple with equally handsome and coloured sepals and petals. A pot or pan full of *Arethusa bulbosa* when in flower is very showy. I find the best way to grow it is to fill a pan or pot with pieces of peat and half-decayed sphagnum, lay the bulbs on, and then cover with a layer of sphagnum and grow

a cool frame. The best time for planting is in February or March.

Calopogon pulchellus.—The rootstock, as in the last, consists of a small greenish solid bulb, usually spherical, producing in the spring one or more leaves, linear or lanceolate, and about a foot or 18 inches long. During the early part of the summer several showy flowers are produced in a loose raceme. The rather large flowers, varying from pink and purple to deep purple in colour, are furnished with white and yellow hairs. To see this Orchid at its best it should be planted in masses not less than twenty-five bulbs in a clump, but more the better. It is easily grown on the shady sheltered part of the rockery in peaty soil or leaf-mould with a covering of leaves during the winter months. Mr. Ware used to show it at the various horticultural shows grown in pans with often more than 100 flowers, and the plants used to increase and rather improve than degenerate. There is also a very rare pure white form.

Bletia hyacinthina in general character resembles somewhat the last named, having, however, a rhizomatous solid rootstock, from which come several lanceolate leaves about a foot long, and scapes from 1 foot to 2 feet high, bearing in a loose raceme several large purple flowers; it blooms in May or June, and can be grown in pots or pans under glass or out of doors in a sheltered shady position in leaf-mould or peat. *B. hyacinthina alba* is a pretty white flowering form. *B. aphylla* has brownish purple flowers, and though not quite so showy as the former is well worth growing. G. R.

FUNKIA SUBCORDATA GRANDIFLORA.

THE majority of Funkias are valued more for their broad ample foliage than for their flowers, but the plant under notice is entitled to first rank: it is, in fact, the only Funkia worth growing for its flowers. The leaves are also ornamental, being of the size of a man's hand, robust, pale emerald green in colour, and borne on long arching petioles. The flowers are produced in autumn and are very striking, reminding one of the New World *Pancreatium* in the purity of their whiteness and sweet fragrance. They are funnel-shaped, average 4 inches in length and 2½ inches in span, and are borne on stout shafts nearly 2 feet high. Each flower is surrounded by a broad leafy bract, a number of which form a leafy tuft on the top of the spike. A well-established plant carrying ten to twenty spikes and from twelve to twenty flowers on each spike is quite a revelation to those who have not seen this Funkia before. It succeeds best in a warm situation, and may require a year or even two to establish itself thoroughly before it flowers. Moreover, the plants need plenty of high feeding when once established to build up strong flowering crowns—the general tendency in poor soils being to split up into numerous smaller crowns—useful as a light green groundwork for taller plants, but incapable of flowering. A strong tuft of this splendid Funkia in flower really rivals the *Eucharis*, and is well worthy of the best attention that can be given to it.

GEORGE B. MALLETT.

ERIGERON MUCRONATUS.

THIS little plant, known also as the Mexican Daisy, was deservedly praised by a correspondent a few weeks ago. I do not know any plant that flowers as continuously as this in the south-west, for it is often in bloom for nine or ten months consecutively. At the end of December I picked expanded flowers, and I have also done so as early in the year as March. In many places, however, it is a perfect weed, self-sown seedlings springing up everywhere. In a garden close to where I



GEORGE ELLWANGER.

in a shady, cool frame. The best time for planting is during February or March.

Calypso borealis.—Like the now almost extinct British Cypripedium *Calceolus* or English Lady's Slipper, this is a British plant, but evidently quite extinct. On the Continent, especially in Central Germany, it is very rarely seen; in fact, it is everywhere fast disappearing. This is a great pity, as it is, like *Arethusa bulbosa*, a gem among flowering plants. It is usually found in partially shaded boggy places in peat, the small greenish and solid bulb resting in moss. Like the former, it produces a single leaf, ovate or heart-shaped, light green in colour, and on a short scape. The flower has spreading sepals and petals and a large sack-shaped lip, hairy and woolly inside, the colour of the flowers being a beautiful pink, tinged purple, and sometimes orange or yellow with white veins. Rarely does it produce more than one flower on a scape from 2 inches to 6 inches high. It is best to grow this little plant either in a selected corner in the shady part of the rockery or in pots or pans in

write the coping and face of an old brick wall is literally covered with hundreds of tiny plants of this *Erigeron* that have sprung from seed which has lodged in the mortar between the bricks. Some of these plants are merely an inch or so in diameter, and bear diminutive flowers about the size of those of *Aster ericoides*. Where it flourishes self-sown on a wall it is scarcely necessary to devote tilled ground to its culture.

S. W. FITZHERBERT.

CROCUS SIEBERI.

YEARS ago I remember being drawn towards *Crocus Sieberi* by reading in a catalogue a quotation, from whose pen I know not, which called *Crocus Sieberi* "a hardy little mountaineer, anticipating all others." The passage is, perhaps, hardly literally correct, as there are some other *Crocus* species which are in the field even earlier in the New Year: yet *C. Sieberi* is among the first of those which open in the earliest months but which cannot be looked upon as legacies of the old year, as several others really are. This season, from established bulbs, my first flower opened on January 22, but the bulk of the plants will not be

the variety *versicolor*, which is, indeed, so varied as to be capable of being classed into quite a number of varieties, if Mr. Mawe is correct in his accounts of it. There is only one form of *versicolor* in my garden, but it is beautiful enough to make one long for an opportunity of growing more.

S. A.

VERONICA CORYMBOSA.

THE little *Veronica* known in gardens by this name, and mentioned by Rev. C. Wolley-Dod in his article on the *Veronica* on page 66, is one which has many good points for the alpine grower, and, despite the difficulties in arriving at a conclusion as to its origin, ought to be grown in many gardens. I have long known it, and have had reason from growing it myself to appreciate one merit in particular that it possesses. This is the late date at which it usually comes into bloom. This is well into autumn, when alpine flowers are generally scarce and a rock garden grows dull, because of the want of bloom too apparent at that season. It is then that this little deep purple-blue flower comes in. If a garden plant, as Mr. Wolley-Dod supposes, it has two points which distinguish it

much admired. Both this species and its first cousin, *R. trigynum*, or *Linum trigynum*, as it used to be called, are capital warm greenhouse or conservatory plants at this dull season of the year, the flowers of the last-named being of a rich glowing orange-yellow colour. Both are easily grown on as bush plants in pots by cutting them back after flowering every year, and repotting when they have broken out into growth again. Or, as is usual, a fresh batch of cuttings may be rooted every spring and potted on either singly or three in a pot. By stopping the points of the shoot once or twice dwarf bushy plants are obtained, which flower freely at every point, and are very gay from November till February or even later. The illustration is from a photograph taken in Trinity College Botanical Gardens, Dublin, by Mr. George E. Low of Kingstown, who makes his camera and his garden special hobbies during his rather limited leisure hours. It may be as well to note here that there are at least three botanical authors who have used the generic name *Reinwardtia* for very different plants. Thus our plant is a shrubby kind of Indian Flax, and was named after Reinwardt, director of the Botanical Garden at Leyden (1773-1822). The *Reinwardtia* of Blume is synonymous with *Saurauja*, and that of Karthals is also a *Ternstroemia*, and not in any way related to the *Reinwardtias* of Dumortier or the *Macrolinums* as they have been called, to which we have above referred. F. W. BURBRIDGE.



REINWARDTIA TETRAGYNA IN TRINITY COLLEGE BOTANIC GARDENS, DUBLIN.

in bloom until well into February. It was pleasant, indeed, to see how this flower opened one sunny day, even although the frost was so severe as to resist the power of the sunshine to soften the surface of the hardened soil. To those who can only appreciate the massive flowers of the Dutch Crocuses it may seem small and insignificant with its bright lilac flowers, but there are many who can realise the beauty of its tiny flowers, which come at such a welcome time.

One thinks that a good deal may be done in the way of selecting the earliest flowering forms—for it seems to be very variable in its blooming time—and propagating from these so as to secure a succession. In colour, too, it is varied, and some have been selected on account of their variation from the typical lilac. One of the most charming here is *C. S. versicolor*, but it comes very late and seems slow of increase. The forms *purpureus* and *lilacinus* are, however, more free, the first of them showing colour to-day (February 3). It is considerably darker than the type and makes an acceptable change. Although as yet expensive, it may come in time to be cheap enough to purchase by the dozen or two to associate with the typical lilac. One would gladly secure more plants of

from most others—this late-blooming habit, and the curiously formed heads, like those of *Mignonette*, as Mr. Wolley-Dod remarks. There is a taller form, which passes under the name of *corymbiflora*, but it is not honoured with recognition in the "Index Kewensis" at all, and is by no means such a good plant. The genus *Veronica* is a very puzzling one, and I have often been indebted to Mr. Wolley-Dod for elucidation of doubtful points in connection with the genus, which he knows so well. I have also been indebted to him for the *Llandudno* varieties, which are all he says of them if planted in the poor soil mixed with limestone which he recommends. They did very well here last season, and were much appreciated.

S. ARNOTT.

Carsethorn, by Dumfries, N.B.

REINWARDTIA TETRAGYNA.

FOR a month or six weeks past this pretty little Indian shrub has been very showy in a warm greenhouse, where its pale primrose yellow flowers with darker centres, produced successively in great abundance, have been

THE ROSE GARDEN.

ROSES UNDER GLASS.

PROBABLY no flower suffers more from absence of sunlight at this season of the year than the Rose grown under glass. Unfortunately, many growers resort to the practice of giving extra fire-heat to make up for the sun deficiency. This is a great mistake. If quality of flower be desired the steadier the temperature the better will it be for the plants and flowers. Roses that are now about to bloom will be much benefited by liquid manure about once a week. It should be, however, of a mild nature and somewhat varied. Weak and often is a safe plan to adopt in feeding Roses. I have obtained the best results from the use of Ichthemic Gnano, given at the rate of a tablespoonful to one gallon of water.

This about once in three or four weeks, with intervening waterings of liquid cow manure, supply all the necessary food healthy Roses require. With the means at our disposal to give the Rose almost perfect treatment as regards temperature and soil, beautiful flowers should be possible under this system of culture.

Ventilation is a very important aid to successful Rose growing in winter. The atmosphere must be sweet and buoyant and charged with sufficient moisture. Many imagine it is not safe to open a Rose house in winter. On a bright sunny day the temperature quickly rises to 80° or 90°, and unless a little ventilation is given the atmosphere is very uncomfortable. As soon as 70° is reached air may be given with caution, and of course the house must be closed again early. I would open ventilators every day if only for a few minutes, but do not open them a foot or so wide. This would be dangerous. Just open about an inch, which would tend to freshen the atmosphere.

Syringing the foliage is of extreme importance. When neglected red spider will quickly follow. The employé should be compelled to do this work thoroughly, not merely syringing the few plants in the front, but endeavour to get at the back rows,

The water must also be forcibly directed to the underside of the foliage. When the weather is dull the paths and pipes should be sprinkled morning and evening instead of syringing.

Blind wood on Tea Roses often appears, and to some is unaccountable, but as it is the nature of the plants the shoots, if not crowded, should be allowed to remain. If clothed with healthy foliage such shoots must be of advantage to the plants. Where Roses of the Catherine Mermet race are used for midwinter work, I would recommend that a trial be made with some on the Manetti stock. Not only are larger plants produced, but this stock is more amenable to forcing than the Briar. It must be understood, however, that the plants will be short-lived. Niphetos flourishes well on the Manetti, and flowers of greater purity are produced. This question of stocks is an important one to the florist where earliness often means increased prices. The Briar is without doubt the stock for outdoor culture, but whether anything better can be found is, I think, worth careful attention. I have an idea that R. Polyantha would be a good stock for Teas under glass. When in Guernsey last autumn I saw some remarkable plants upon the Polyantha stock outdoors. The same stock was also employed for dwarf and half standards, the buds being inserted in the barrel, and marvellous heads they made although on slender stems.

Many gardeners have doubtless potted up a quantity of Crimson Rambler Rose for pots. If these were cut back to about 12 inches from where budded they will this season give several fine growths some 18 inches long, each crowned with a fine panicle of blossom. That they make grand conservatory plants need not be mentioned here, and they would be of untold value for decoration in various ways. The temperature afforded should be very gentle at first, say about 50° at night, advancing if needful as the roots lay hold of the soil. This Rose, so much addicted to red spider, will need careful attention to keep the pest in abeyance. P.

ACANTHUS MOLLIS LATIFOLIUS.

THIS Bear's Breech belongs to a valuable group of stately-growing ornamental flowering plants, and is worthy of more attention, being worth space for its handsome foliage alone. The leaves are, in a well grown plant, 3 feet to 4 feet long, 9 inches wide, and of a deep shining green. They are bright in winter, and form an effective background to the border or an imposing group on the turf. This Acanthus is not particular as to soil or situation, spreading freely on rocky banks. The flower spikes, which are at their best in September, are very fine, often measuring 6 feet high. The subject of the illustration was planted on a rocky bank four years ago, and is now 15 feet across. The foliage may suffer now and then in a severe frost, but quickly recovers.

Redruth.

V. GAUNTLETT AND CO.

CHRYSANTHEMUMS.

REPOTTING.

IN most cases Chrysanthemums of all sections and for nearly all purposes should now be well rooted, and will require shifting on, but extreme care should be exercised by not giving too much pot room at this season. It is unwise, for the sake of saving time, to make one or two pottings suffice, but it will be far better to have everything in readiness, and not repot before they are quite ready. However, it is of the utmost importance that the young plants be not allowed to suffer through becoming pot-bound in their early stages of growth, but it is far more dangerous to overpot them. Some varieties need a much longer period to take root than others, and the stronger growing varieties are also much more impatient than the weaker ones.

Assuming the principal batch of cuttings to have

been struck in 2½-inch pots, most of them will be ready for 3-inch or 4-inch sizes, using a moderately light sandy compost, which should consist of two parts light fibrous loam, one part leaf-soil, and one of old Mushroom bed manure, passing the two latter through a quarter of an inch mesh sieve. Add a small quantity of finely broken charcoal and crocks, and sufficient road or silver sand to keep it in an open condition. The pots should be well drained, and by this I mean not so much the quantity as the way it is arranged and kept intact from the compost. One large crock placed in an inverted position, with a very few of a smaller size placed about it, and on the top of these a few pounded quite fine, with the dust only excluded, should be used. Over this should be placed a very thin layer of fibre taken from the loam heap, when if worms are excluded from the potting mixture, as they should be, it will be quite safe to assume that the drainage will be as perfect when the plant is turned out for the next repotting as it is the day it is arranged.

Use the soil in a moderately dry condition after it has been thoroughly mixed, and press it firmly about the roots. This will naturally give the

plants a slight check, and every inducement should be given them to recover from this as speedily as possible. If a slightly heated pit can be afforded for a few days, arranging them on a bed of finely sifted cinder ashes quite close to the glass, all the better; but immediately the plants commence to grow remove them to a sheltered open position in cold frames and as near the glass as possible. Strong, sturdy growth must be encouraged; consequently, whenever the weather is favourable, give air freely. Cold northerly or north-easterly winds are not favourable to good growth, so that very little air will suffice when the wind is in this quarter, and the lights should be tilted in the opposite direction. Examine the plants each morning and give water when necessary.

All late struck cuttings, and any which may be in a backward condition from any other cause, should be carefully nursed along in a more genial temperature, potting them on as soon as it is safe to do so, so that the whole of the plants may be got together as early as possible.

SPECIMEN PLANTS.

It is essential, to obtain large plants with flowers of high quality during November, that the



ACANTHUS MOLLIS LATIFOLIUS AT REDRUTH.

growth and foundation of the plants be made as early in the season as possible. These may with advantage be still grown and nursed along in a growing temperature in a light house or heated pit where the growths can be freely syringed and air admitted abundantly. The plants by this time should be quite ready for potting on into 6-inch pots, using a similar compost to that advised for a previous potting, with the addition of a fair sprinkling of bone-meal, a safe and lasting manure. At this time they should be potted more firmly. Continue to pinch out the points of the young growth until the desired number of shoots is obtained. Fumigate occasionally to ward off attacks of green and black fly, and dust the underside of the foliage with sulphur to prevent the spread of mildew. Unfortunately, the *Chrysanthemum* rust has made serious headway during the past two years, and few collections are entirely free from it. I would strongly advise all who are fortunate enough to have a clean stock to guard against importing it, for when the collection becomes badly infested, as it generally does during the development of the flowers, the sight is a pitiable one. I believe paraffin, when carefully used and thoroughly mixed at the rate of one wineglassful to every four gallons of water, which should be used in a tepid state, is a sure preventive so long as it can be used, but unfortunately it has to be discontinued just at that season when the spores spread most rapidly. Nevertheless, great pains should be taken to stamp it out as much as possible.

AN EXHIBITOR.

CORRESPONDENCE.

(The Editors are not responsible for the opinions expressed by their correspondents.)

PINK LORD LYON AND PINKS IN GENERAL.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—I am very grateful to Mr. R. Dean for his interesting reply in your issue of January 4 to my enquiry for Pink Lord Lyon, which, through the kindness of one of your readers in the North, I have now procured from Messrs. M. Campbell and Son, Auchinraith Nurseries, High Blantyre, Glasgow.

While it is remarkable that so much difficulty has been experienced in tracing this variety, which Mr. Dean tells me is probably the finest rose-coloured Pink ever raised, it seems to me still more remarkable that the Pink, which as a class once rivalled the *Auricula* in the affections of the hand-loom weavers of Lancashire and Paisley, should have been allowed to sink into comparative obscurity, for no plant is more easily cultivated nor more lavish in its return of fragrant bloom for any care and attention bestowed upon it, and even when not flowering its neat and cheerful grey foliage is always refreshing to the eye. It is *par excellence* a town plant, for smoke and fog do not injuriously affect it to any appreciable extent—at any rate in the in the adult state.

Happily, there are evidences of an awakening interest in border Pinks, and some of the newer white selfs, such as Albino, Snowflake, and Mrs. Lakin are not inferior to Carnations. One wonders, indeed, how these varieties, the two former of which have smooth-edged petals, and none of which are calyx-busters like those older favourites Her Majesty and Mrs. Sinkins, can be improved upon, although I have since last season added to my collection The Bridesmaid, which is said to be more robust than Albino. Unfortunately, there is ample room for improvement in the coloured self class, for, so far as my knowledge extends,

it embraces no rich reds, scarlets, or crimsons such as are found amongst Carnations, Sweet Williams, and Indian Pinks. Perhaps I ought to except Rubens, which I am told is red, but which has not yet flowered with me. If, however, there be another which can claim to be anything richer in colour than rosy magenta I shall be equally surprised and delighted.

It will, I think, be admitted that such a state of things is regrettable, and it may very naturally be asked why other branches of the *Dianthus* family should have a monopoly of rich colouring. There is undoubtedly a difficulty in the way of deepening and enriching the colour of these selfs, as I have proved by personal experience, for after nearly ten years of most careful cross-fertilisation I have found most of the resulting seedlings disappointing. I was at first inclined to attribute this to lack of pigment, but it can scarcely be the reason, as in the Laced and Pheasant-eye Pinks the markings are highly coloured. Whatever the reason may be, the difficulty is one which, judging from existing varieties, the old raisers evidently failed to overcome. Possibly a solution may be found in an infusion of blood from one of the sections of the *Dianthus* family before referred to. At all events it is earnestly to be hoped that the difficulty is not insurmountable, and that more experienced devotees of the Pink than I am may be able and willing to throw light on the subject.

Sheffield.

SIDNEY HALLAM.

[We thank Mr. Hallam for his interesting note. It has been our desire, as our many notes will show, to encourage as much as possible an interest not merely in the Pinks at present in our gardens, but also the raising of new varieties. Those who have not read our previous articles about garden Pinks should refer to them.—EDS.]

THE TREE TOMATO.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—Could you or some kind brother gardener give me any information as to the Tree Tomato? I received some seed under that name which duly came up and grew, and, I presume, is the *Cyphomandra betacea* which goes under that name, but I am rather puzzled by a description of it given in *THE GARDEN* for December 15, 1900, which describes it as "a small bushy-headed tree with large cordate leaves, 9 inches to 12 inches across on vigorous plants," while my plants grew with a straight stem right up to the glass roof some 10 feet or 12 feet, with leaves 20 inches by 16 inches, and no branches. It showed no signs of flower or fruit, and I now await directions from anyone having experience with this too vigorous baby, as to what steps to take to reduce it to some sort of moderation in growth and some sense of its responsibilities as to fruiting. For any information I shall be duly grateful.

H. R. DUGMORE.

The Mount, Parkstone, Dorset.

EUCALYPTUS GUNNII.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—Like your correspondent Professor Wallace, my experience of *E. Gunnii* began in 1887 with seed sent me by a friend from the extreme south of Tasmania. I planted out some sixty seedlings in the autumn of that year on a gravelly knoll, unprotected from either east or north. The soil was thin and poor, but in five years' time they had grown to about 15 feet, flowered, and seeded. From this seed I have now some 900 trees, and have given seed or young plants to friends in Cheshire, Dorset, Lincoln, Suffolk, Fife, and County Tyrone in Ireland, besides about 100 plants to neighbours in Essex. My biggest tree girths 3 feet 3 inches at 1 foot from the ground; but its height is greater than Professor Wallace's specimen. In thinning them I have measured one 43 feet 8 inches, and have many

taller, probably 47 feet to 50 feet high. I consider the tree quite hardy, though in some severe winters they are apt to lose a foot or so of their leading shoots.

The trees vary much in habit—some being straight poles with a bushy head, others pyramidal; they vary also in time of flowering, seldom a month passes, never a summer, without some blossom, which bees love and throng to. I have purposely planted in all sorts of soils, sand, peat, loam, clay, and even on a flat marsh reclaimed from the sea. Some have done fairly well in each of these situations, but one thing I am convinced of, which is that they do better singly in an open spot than planted as a group or wood. Lord Ancaster, to whom I gave some seed about 1894, tells me they flourish in a swampy wood on his Lincolnshire estate. I have seen the tree thriving in Fife. But I hear that far the finest and tallest tree in Great Britain is to be found at Whittinghame, Mr. A. Balfour's place in Berwickshire. I use the wood for posts and rails.

Brightlingsea, Essex.

JOHN BATEMAN.

THE SWEDE AS A VEGETABLE.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—I was pleased with Mr. Wythes' note on the Swede as a vegetable (page 52). I have long known its value for culinary purposes, and in one establishment where I was employed Swedes were sent to the dining-room twice a week. They are a great boon where the garden is small, especially in severe winters, as they eke out the supply of other vegetables. When mashed and flavoured with butter they are delicious. Mr. Wythes mentions the white variety, which is no doubt preferable for the table. It is a good plan to lift a quantity of them in November and lay them in some sheltered corner, covering them first with bracken or litter, and then with soil or ashes. Treated thus they keep plump and retain their flavour, and are easily got at even in the severest weather. Medium-sized, good-shaped roots are always the best flavoured.

J. CRAWFORD.

ERINUS ALPINUS IN NORTHUMBERLAND.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—The name of the plant growing on the Roman walls at Chesters, Northumberland, is *Erinus alpinus* var. *hispanicus*. It seems quite impossible that it can have sprung from any modern seed, as I have the word of the old man who has done nearly all the digging there that as soon as ever a piece of wall was uncovered the plant sprang up in abundance. The excavations have gone on for many years, and the *Erinus* was well known to the greatest authority on the Roman wall, Dr. Bruce. It is *not* the *E. alpinus* to be found in Switzerland, but is identical with the variety which is abundant in the Pyrenees. I have collected plants in both places, so am certain of this. In his "Handbook to the Roman Wall," Dr. Bruce wrote: "*Cilurnum* (Chesters) was garrisoned—as numerous inscriptions prove—by the second ala of Astures, a people from the modern Asturia in Spain." The mountains of that province are simply a continuation of the Pyrenees. The inference is obvious, especially as the *Erinus* grows nowhere else on the wall. I may add that to my knowledge no one has ever cast a doubt on the Roman origin of this little plant. There is another plant growing at the Chesters and credited with the same origin as the *Erinus* by Northumbrians. Were any other seeds dropped about the wall in modern times?

M. P. FORSTER.

Fairfield, Warkworth, Northumberland.

PEAR WINTER NELIS.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—I was pleased to see so excellent an illustration in *THE GARDEN*, page 63, of this old Pear, which was given an award at a recent meeting of the Royal Horticultural Society. Although the Fruit Committee have been long in recognising its merits, they did so handsomely at last, nearly

every one voting in favour of a first-class certificate. Though suggesting to fruit growers our past neglect in having overlooked these good things, no one will dispute the value of such an award to this first-class Pear. It was introduced nearly a century ago, and although it is not a success in some gardens in many others it crops well, and what makes it additionally valuable is the fact that it keeps good until midwinter, when we have few really good Pears. Few varieties are more suitable for gardens of limited size; it is not a coarse grower, and very good when grown on the Quince stock, and best when given wall culture in exposed positions. The fruit should be left as late as possible before storing, as if gathered at all early it ripens in November and sometimes shrivels badly. In the southern counties I have seen this variety do well as an espalier.

G. W. S.

THE EARLY DAYS OF THE FLORIST'S AURICULA.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—The interesting photograph of Auriculas from the records of the Spalding Society, especially that of "Grand Paisant," indicate very exactly the stage that plant had reached in 1725. At the same time the writer of the accompanying notes errs in supposing that the florist's Auricula, either that with a well-defined yellow or white eye, was any novelty. Samuel Gilbert, son-in-law to John Rea, published his "Vade Mecum" in 1683, and therein includes dozens of sorts of Auriculas. From white they ranged through all the usual colours and shades to "the Black Imperial and the Black Emperor—such dark purples that little differences them from black, with delicate snow-

white eyes." Here is another description:—"Blazing Star just now appears in view, the largest leaf flower of them all by much, of a very deep murrish liver colour, with a snowy white eye as big as the whole of another flower." At this period there was a run on varieties with flowers striped, or as one authority has it, "the more ennobled Auriculas enriched by their stripes." Among these there was the greatest possible diversity, as "deep purple and straw colour, white eye, fine flowerer; blood colour streak'd with yellow, good eye; fine violet and white, sky colour and white," and many more. But more desirable than these were the double self-coloured and those with striped flowers which before the Revolution were held in the greatest esteem. Of the latter "crimson and white and purple and yellow" are declared to be the two choicest varieties in "Flora's Cabinet." The last-named sold at from £5 to £20 a plant. A curious catalogue of varieties for sale is appended to the book. Rea's "Florilege" treats of the Auricula also from the point of view of the florist. This book was published in 1665, eighteen years before the "Vade Mecum." His list of varieties is not so extensive as that of his son-in-law, though it contains many of the varieties named in both. Rea is, however, much more interesting in giving the names and dwelling places of the raisers of many varieties, from which we are led to infer that neither Lancashire nor Lincolnshire possessed an exclusive right to the Auricula. The unabridged description of "The Fair Downham" is too lengthy to copy. Suffice it to say, it was the finest purple with white eye then known, and that it "takes the name from the first owner, my very good friend Mr. John Downham, from whom many years since I had this and divers other

flowers." This variety, it may be added, was considered the earliest of the florist type. Mr. Good's Purple possessed the good quality that its "snow-white eyes will not wash yellow with rain, as some do." Mr. Austen, Oxford, was the raiser. "The Black Imperial" was also raised at Oxford. "Mistress Buggs, Battersey, near London," was responsible for some good sorts, and Mr. William Whitmore was another London raiser of repute. Mr. Rickets, of Hogsden, "the best and most faithful florist now about London," raised good sorts; the well-known Mr. Jacob Bobarts, "keeper of the publicke garden," Oxford, also raised good sorts, and the younger Tradescant and Mr. Tuggie, of Westminster, also worked among Auriculas. The first indication of the double sorts which so quickly became popular is mentioned by Rea, a kind which bore flowers with three rows of leaves (petals) in each flower.

An examination of Parkinson's figures of Auriculas shows the white eye in various stages of development, and it is even to be found in Gerard. "The finer sorts of Bears-ears" were cultivated in pots or cases in the North of Scotland in 1683, and they could be purchased in Edinburgh at the same date. B.

IN A SUSSEX GARDEN.

UNUSUALLY comprehensive and full of good features is the accompanying illustration. The house, lake, flower garden, and wall garden are all well represented. The character and beauty of the foreground are greatly added to by the Yuccas in flower, and the adornment of the sides of the lake in itself teaches much.



VIEW IN THE GARDENS OF SEDGWICK PARK.

We see here an example of a pond margin made beautiful by the planting of a shrub (*Cotoneaster*) most suitable for this purpose. By its close, creeping habit of growth it has almost completely hidden the hard stone margin. In fact, the characteristic feature of this garden picture is undoubtedly the effective way in which the hard, unpleasing stonework is covered with greenery. Structures, although they may perhaps in themselves not be objects of beauty, can be often so transformed by suitable planting as to add materially to the interest and variety of a garden. T.

GARDENING OF THE WEEK.

FLOWER GARDEN.

WHERE the turf on lawns has become mossy and full of weeds no time should be lost in trying to improve it. First remove all the weeds; this in a large lawn entails no end of tedious labour, but the improved appearance of the turf in the summer following fully justifies its being done. A rough rake run heavily over the grass removes the moss to a great extent, and prepares it for a fairly heavy dressing of good rich soil, which by the end of March or beginning of April will have been washed well into the roots of the grass, when it can all be neatly raked over and sown thinly with a mixture of grass seeds. After the sowing the turf should be lightly raked over again and thoroughly rolled. For simply strengthening and

IMPROVING THE GRASS

an application of some reliable chemical manure is the best thing possible. I use for this purpose basic slag and kainit, mixed with a little finely sifted soil, in the proportion of 14lb. of the former to 9lb. of kainit for a lawn surface of 100 square yards. In four or five weeks after applying the mixture I add a dressing of 5lb. of nitrate of soda. The result has always proved eminently satisfactory. In the propagating department work is increasing rapidly.

DAHLIAS

should now be removed from their winter quarters and placed in heat that cuttings may soon be obtained. These should be taken with a heel, and inserted singly in sandy light soil in small pots and placed in bottom-heat to strike, but once rooted should be rapidly hardened off. I grow all my Dahlias from cuttings, as I find they are much better plants than any grown from the old tubers, and they have also the advantage that in the early summer when in pots they take up so much less room. I am sowing at present a new strain of dwarf single Dahlias from which I hope to secure one or two good colours worth retaining. It is recommended as being early and extremely free flowering, growing only from 18 inches to 24 inches, and should prove an excellent adjunct to the dwarf border.

THE HOLLYHOCK.

Through the almost universal prevalence of the disease to which this beautiful flowering plant is subject, it is now generally recognised that the only way to enjoy the colour of its splendid spikes, so essential to the boldness of a mixed border, is to raise fresh stock every year from seed. The seedlings, though not exempt from the fungus, still in comparison to old plants and plants raised from old stock enjoy an appreciable immunity from it for a few years. It is almost hopeless for individuals to try to eradicate this disease entirely. When the seeds have been saved from fine flowers a large percentage of good varieties may be relied upon. Many prefer the autumn for sowing, and then growing them through the winter in cold frames, but I find sowing them now and growing them on quickly far better than keeping them throughout the winter the prey of damp and slugs.

THE BEST PLAN

is to sow in boxes of fairly rich soil, placing the seed separately, allowing a space of an inch between each plant and starting them in a gentle heat. When the seedlings appear, ventilation should be increased until they are fit for cool frames. When large enough and well rooted they should be potted. In a very short time they will be ready for planting out. Treated thus Hollyhocks flower the first year, though the spikes are much stronger and finer in the autumn following.

HUGH A. PETTIGREW.

Castle Gardens, St. Fagans.

INDOOR GARDEN.

FERNS.

MANY of these are now commencing to grow, and those requiring to be repotted should have some of the old soil removed. Others may be divided, taking care not to damage the young growth. Those with creeping rhizomes, as *Davallia*, are easily increased, either by layering the points or removing portions that have formed roots. The majority of Ferns for general decorative purposes will succeed in a mixture of fibrous loam, leaf-mould, charcoal, and sand; pot firmly, giving efficient drainage. Although most Ferns are water-loving plants, they will not endure stagnant moisture; great care is therefore necessary not to give much water until the roots have obtained a firm hold of the soil. *Adiantum Farleyense* I have always found does best when potted in July, using a porous compost of turfy loam, leaf-soil, charcoal, sand, and broken crocks. Specimen plants of *Davallia Mooreana* should have a good top-dressing of sphagnum moss, peat, and sand.

PALMS.

These should be overhauled now and all necessary repotting done. They succeed better when restricted at the root than when over-potted. The roots of Palms should, if possible, never be cut. Such varieties as *Cocos Weddelliana* must be very carefully handled in potting. Should their tender roots get bruised in shifting it will prove most disastrous; pot firmly, using a compost of fibrous loam, charcoal, and sand, with ample drainage, as they require plenty of water. Plants that do not require repotting should be given a liberal top-dressing, and see that the drainage is good. Manure water made from sheep manure and soot will greatly assist them when in active growth.

TUBEROUS-ROOTED BEGONIAS

that show signs of life should be potted into small sized pots almost on the surface of the soil. As the pots become full of roots shift into larger sizes, inserting the bulbs deeper each time until the crowns are covered. Use a compost of fibrous loam, leaf-soil, and sharp sand. Place the pots in a house having a temperature of about 50° and a humid atmosphere, and water sparingly until root action takes place: when the young growth is perceptible water may be given more freely. *Richardia Elliottiana* and its varieties should now have the old soil shaken from the tubers, and placed in pots according to the size of the tubers. They require a rich open compost of fibrous loam, leaf-mould, cow manure, and sand. In potting sprinkle sand over the crown of the tubers, place in a temperature of about 60°, syringe freely, but water carefully until growth commences.

FUCHSIAS

that have been at rest should now be pruned and shaken out of their pots, potted into others of a smaller size, and placed in a forcing house, where they can be syringed freely morning and afternoon. Fuchsias require the same compost as recommended for *Richardias*. To Violets in frames give plenty of ventilation every day in mild weather.

JOHN FLEMING.

Wexham Park Gardens, Slough.

KITCHEN GARDEN.

TURNIPS.

ALL the best bulbs ought now to be taken up and stored away in pits, or in a short time they will commence a new growth. The most satisfactory

way to preserve them is to place them in clamps under a north wall, but care should be taken in doing this not to put too many together. Arrange a layer of Turnips and a layer of finely-sifted cinder ashes, place a few drain pipes or bunches of Wheat Straw through the centre to afford ventilation, and finally cover with ashes or light soil. The roots will keep in good condition for many weeks long after those in the open are worthless except as greens.

CABBAGE.

The earliest plantations of these, owing to the early growth made in the autumn, have suffered considerably here, and also in many other places, and more especially where the plants were not moulded up. I always advise and practise planting just twice as thickly as is necessary for the development of the crop, so that in the event of failures we have more than sufficient for replacing them. Any not required for this purpose may be cut for greens. Those growing on a south border or in sheltered positions should have the soil stirred up deeply about the roots with the hoe, at the same time leaving the stems well protected with freshly stirred earth, and all vacancies made good. Early spring Cabbage is generally appreciated in every household, and it behoves the cultivator to produce them as early as possible. I much prefer autumn-sown plants to those raised in spring, but at the same time where there is a scarcity a small sowing may now be made also.

RED OR PICKLING CABBAGE.

Seed will germinate freely on a very mild hot-bed, and if drilled between sowings of Carrots and pricked out into boxes before the rough leaf is made these will form good plants for putting out in spring and no harm will be done to the Carrot crop.

CUCUMBERS.

Little difficulty will now be found in producing these, providing suitable structures are allowed and reliable kinds cultivated. As the days lengthen and the sun gains more power the growths made will be much more vigorous, and fruit will be produced freely; avoid over-cropping, keep the growths well thinned, maintain a brisk temperature, and surface-dress the borders often with fresh material which has been previously warmed.

TOMATOES.

Winter fruiting plants will require strong heat and all the light possible to enable the fruits to become well flavoured. The plants should be kept moderately dry at the roots, and the atmosphere of the house should be dry and buoyant. Each flower must be carefully fertilised about midday to ensure a free set.

E. BECKETT.

Aldenham House Gardens, Elstree, Herts.

THE FRUIT GARDEN.

STRAWBERRIES.

In order to hasten the ripening of the fruit upon early forced plants the temperature of the house should be gradually increased after the fruit is set until it reaches from 65° to 70° by night, with about 5° more by day. The fruits should be early thinned to about six upon each plant, according to variety, and supported so as to derive the full benefit of the sun. The plants should be kept free of runners, on no account be permitted to suffer for want of water, and until the fruit commences to colour have liberal supplies of diluted liquid manure, when, with a view to enhance the flavour of their fruit, they should be subjected to cooler and more airy conditions. Red spider will not give much trouble provided the watering and syringing of the plants is properly executed, and green fly can be easily killed by lightly vapourising with XL All liquid.

PINE-APPLES.

A compost should now be prepared for successional plants of the Queen. This may be suitably formed of tolerably dry fibrous light loam, roughly broken up, separated from fine particles, and thoroughly mixed with dry soot and bone-meal at the rate

of an 8-inch pot full of each to a barrow load of soil. Supposing the plants to be in 7-inch pots, and properly possessed of active roots, they should be at once shifted into clean efficiently drained ones of 12 inches in diameter. Previous to being turned out the plants must be freed of some of their basal leaves, and when potted the compost should be made firm about them with a rammer. A bed of suitable plunging material, with a temperature of about 85° having been prepared, the plants should be firmly replunged at 2 feet apart. Provided that the soil around the roots was fairly moist when the plants were potted, and they are daily lightly syringed, there will be no need of watering for a few weeks, and until the roots have taken well hold of the fresh compost special care must be taken to avoid overwatering.

FRUITING PLANTS.

Queen Pines started quite early this year are now showing fruit, and once their flowers expand the atmosphere must be kept moderately dry and a steady night temperature of about 70° maintained, otherwise imperfect fruits may result through defective fertilisation. As soon as the flowering season is past the ordinary mode of treatment with respect to atmospheric conditions may be resumed, while other requirements should be afforded as previously advised. Suckers as they appear should be removed. Keep plants of the smooth-leaved Cayenne, Charlotte Rothschild, and others that have been prepared for winter fruiting steadily progressing at the present time in a night temperature of about 65°. Clear diluted liquid manure should be afforded each time the plants are watered, and as the sun increases in power it should be borne in mind that the Cayenne is very impatient of direct powerful sunlight, which must be subdued in order to prevent its doing injury.

NEW VINE BORDERS.

These can be either made wholly indoors or outdoors, or the roots can have the run of both inside and outside borders, but personally I prefer those formed entirely inside. In any case they should be about 3 feet 9 inches in depth, made on the piecemeal system, be provided with adequate tile drains, and 1 foot of brick or stone rubble. This will admit of 2 feet 9 inches of compost, which may consist of sound calcareous loam, obtained from the surface of an old pasture, stacked long enough for its herbage to decay, roughly broken, and according to its character incorporated with more or less crushed old mortar and wood ashes, so that its porosity is ensured.

T. COOMBER.

The Hendre Gardens, Monmouth.

HARDY FRUITS IN SEASON.

STEWING PEARS.

MANY and various are the uses to which the Pear lends itself (apart from its value as a dessert fruit), in the making of compotes, jellies, and sweetmeats, and, regarded from this point of view, the fruit is almost as important as a preserve as it is for dessert. The varieties of Pears useful for this purpose are somewhat distinct from ordinary dessert sorts, inasmuch that the texture of the flesh is more solid and the flavour not too rich or sweet, and, generally speaking, the fruit is much larger. Some of them, especially when grown against a wall, attain an enormous size, and take on a handsome and rich colouring, vieing in this respect with the finest dessert sorts. The following varieties are amongst the best, and any of the dessert sorts which may not ripen satisfactorily will also be found useful for stewing.

BELLISSIME D'HIVER.

This is one of the best. It is large, with white flesh, crisp, and sweet. The tree is hardy and succeeds well in the garden or



PEAR UVEDALE'S ST. GERMAIN. (REDUCED.)

orchard. Stewing Pears remain in season for so long that it is difficult to fix any particular date when it can be said they should be ripe; this variety, for instance, may be had in condition for stewing any time from December to March.

VICAR OF WINKFIELD.

A valuable variety, and esteemed highly for stewing purposes. It is a long, large fruit, and in quality one of the best. It is one of the most prolific bearers we have.

CATILLAC

when grown against a wall becomes of great size, the tree being a robust grower. The fruit is in season from February to May.

GENERAL TODTLEBEN.

This is a large, richly flavoured variety, possessing a distinct and pleasant perfume. The tree forms a handsome pyramid, and bears freely—one of the very best. In season from November to January.

GROSSE CALEBASSE.

This is distinguished for its great size and its purplish grey colour, and also for its hardiness and vigour of growth. The quality is second rate. In season from November to Christmas.

DIRECTEUR ALPHAND.

This is one of the latest, ripening any time between March and the end of May, and for this season is one of the best. The flesh is slightly rough, but is sweet, with a pleasant aroma and pure white in colour.

VERULAM (OR BLACK WORCESTER).

A hardy and distinct sort, the colour of the skin almost black. The tree is an abundant bearer, and the fruit remains in season a long time.

UVEDALE'S ST. GERMAIN.

One of the best known and most commonly cultivated. When grown against a wall it attains a great size. It is a handsome variety as may be seen by the accompanying illustration. In season from February to May.

BEURRE CLAIRGEAU.

When grown to perfection against a wall, either as a cordon or a fan-trained tree, this is the most handsome of all Pears. It is of

good size, and as regards flavour I think it is to be preferred to any of the stewing sorts; indeed, in favourable seasons it is good for dessert. A tree or two should be grown if only for the beautiful appearance and colouring of the fruit. It succeeds as a bush or pyramid, but should be double grafted. The stewing Pear possesses enormous possibilities regarded as a preserved fruit for winter and spring consumption for our teeming population at home, and when other fruit is scarce. OWEN THOMAS.

MISCELLANEOUS.

PROPAGATING TREE CARNATIONS.

FEBRUARY and March are the principal months for propagating Tree Carnations, those struck in February flowering from October to January, and the March struck batches from February onward.

Early propagation is advisable, as then the plants, if duly pinched and potted on, make large specimens by autumn, and furnish a wealth of bloom in winter. Many grow their Tree Carnations in a temperature of 60°, and doubtless a genial warmth induces the flowers to open in quick succession; but cuttings taken from plants grown in heat are not reliable, being invariably weak and apt to damp off. They should be obtained from plants grown under cool conditions, and sturdy, short-jointed side growths should always be selected, and if possible detached with a heel or portion of the older wood. A slight incision should be made in the base of the cuttings, and the latter inserted firmly and not too thickly in small pots in fine loamy and leafy soil, containing a large percentage of grit. Many strike the cuttings in Cucumber or Melon houses, but such structures, being usually too hot and moist, the cuttings damp off badly. I find a frame on a gentle hot-bed the best place for them, as what is wanted is a moderate top-heat—60° to 65° is a suitable one—and a bottom-heat of 75° or 80°. A bed of leaves is best, and it should be covered with a layer of cocoanut-fibre, leaf-mould, or even ashes, 6 inches in depth, and the cutting pots plunged in it. The cuttings should receive a gentle watering as soon as inserted, after which moisture should be supplied by the syringe only. Beware of keeping the cuttings too wet, as it is surprising how a frame will

retain moisture. Shade from bright sunshine, and admit a little air occasionally to allow of superfluous moisture escaping. When the cuttings are rooted stand the pots on the surface of the bed, and gradually harden off the plants by increasing the supply of air preparatory to removing them to a light airy greenhouse. J. CRAWFORD.

SNOW AND PROTECTION.

Snow is often regarded as a nuisance in the garden, and yet it is nine times out of ten a blessing. We are apt to look too much to our own comfort in getting about outside, and do not take heed of the benefit from a foot or so of snow to many plants, more especially low-growing and tender subjects. In the Alps and other mountainous regions those beautiful little plants, grown in gardens under the collective name of alpine plants, are protected from severe frosts and cold cutting winds by a layer of snow, under which they rest perfectly secure until spring melts it, when, with bright sunny weather, they soon burst forth into flower and leaf. If the same conditions could be obtained in our gardens, what a tremendous lot of worry and anxiety it would save the grower of rare or choice plants! To secure many alpine plants against the effects of dull, damp weather, and yet allow them a proper amount of light and air, is no easy matter, and the best means of doing so are only makeshift when compared with the ideal covering of a few inches of snow. Through this light and air penetrate freely, and an even, low temperature is maintained, which, while keeping the plant quiet, is not sufficiently low to injure it.

Besides alpine plants, however, there are many others that receive benefit from a covering of snow. Dwarf Roses which have been budded the previous season are better protected by it than anything else, and so are young Rhododendrons, Conifers, Hollies, &c., which are just passing through their first winter out of doors. Under the snow they are perfectly safe; cold, drying winds may blow, and the thermometer descend to zero, but they do not feel it, the snow affording a protection impossible to give by other means.

A foot of snow is said to be equal to an inch of rain in the amount of moisture it contains, but here, on the Surrey hills, we find it worth more, provided the ground is not frozen beneath it. Many of the rains we get are heavy rather than continuous, and a great deal of the water runs off to fill the ditches and drains. With snow the case is different, as on melting practically every drop of water soaks into the ground, and makes it far moister than the same amount of water falling in the form of rain. Against the good, however, must be set the harm snow does in breaking branches off large evergreens by its weight, but this can be avoided to a great extent by shaking it off, so that snow after all is a greater friend to the gardener than he often considers it.

Bagshot, Surrey.

J. C.

A GARDEN FRAME IN WINTER.

It is surprising how many flowers and how much pleasure can be obtained from the possession of a simple garden frame if rightly managed. It is an entirely unheated one that is referred to, simply a wooden framework, with no bottom, and a glass light for the top. The amateur who has not tried what can be achieved with a cold frame in the early months of the year, when there is but little in flower out of doors, would be astonished at the quantity of blossoms he can with little trouble produce. So far as my own frame is concerned I have relied upon bulbs to produce the floral display, and these are undoubtedly the most satisfactory, for they are practically dormant (or at any rate what progress is made goes on beneath the soil) during the dull, sunless, and often foggy days of early winter.

I shall just mention some of the simplest and best known spring flowers, because those succeed best under the somewhat crude conditions of a small unheated garden frame. I refer to such things as winter Aconites, the scarlet Anemone (Anemone

fulgens), Hyacinths, Tulips, and Narcissi in variety, Crocuses, Scillas, Chionodoxas, Snow-drops, &c.

Many of these charming spring plants can be had in flower in January, and all of them some considerable time before they make their appearance out of doors. The great secret in growing them successfully is to pot them up early, certainly not later than October, but better still in September. With the amateur it is often a difficult matter to obtain soil whose quality even approaches mediocrity, yet it is not impossible or even difficult to bring about its improvement.

If the soil is heavy and close, as it often is, mix some ashes with it and sand also. Place sufficient pieces of broken pot at the base of the flower pot to provide thorough drainage, and take care that this is not choked when putting in the soil. Place either pieces of turf or a few leaves over the crocks to prevent the finer soil falling down. The provision of good drainage, the inclusion of a fair amount of sand and ashes with the soil, and a few sprinklings of Canary guano on the surface of the soil when the plants are growing freely will go far towards improving even suburban soil when used for the culture of pot plants. Having potted the bulbs early, place the pots closely together in the frame, and cover them completely over with ashes, filling carefully between the pots.

The ground (preferably gravel) upon which the frame is placed should first be covered about 2 inches deep with ashes, the pots stood upon them in rows across the frame, and the interstices well filled with ashes also before the next layer of pots is brought in. By this means the pots will be completely surrounded by ashes when all are in. Cover the tops of the pots with ashes to the depth of 2 inches or 3 inches also. Ashes are easily procurable, and a good heap should be obtained beforehand, they have but to be saved and passed through a sieve. When, in the course of some weeks, the young shoots make their appearance through the ashes take them out and expose them to the light, although not to the sun, for a few days. Do not water until growth is well advanced, and then most carefully, for an excess of moisture in a quite cold frame is not easily got rid of, and the tender shoots quickly decay. Such are a few of the most essential points to be observed in attempting to anticipate the season of early spring flowers by means of an unheated garden frame.

A. P. H.

THE UNHEATED GREENHOUSE.

IX.—FLOWERING SHRUBS.

IN considering suitable plants for the unheated greenhouse, it is better—partly for the sake of easy reference and partly because their cultural treatment is, in most cases, likely to run on the same lines—to group them under specific headings. Flowering shrubs, both hardy and half-hardy, form a most important decorative class, whether from the standpoint of the winter garden, devoted to the somewhat tender denizens of more southerly climes which demand wide space, or of the modest conservatory for which plants in 5-inch to 10-inch pots are the most suitable and convenient. The winter garden is pre-eminently fitted for the permanent planting of some of the countless grand shrubs and rafter plants, such as the Himalayan Rhododendrons, Acacias, Magnolias, and others, which flower naturally during the earliest part of the year, for it is likely enough to stand idle, as far as show purposes are concerned, during the summer months. For late autumn, a season when the winter garden begins once more to be attractive, such fine things as the deep purple-flowered *Desmodium penduliflorum* and *Asparagus umbellatus*, which is charming in flower as well as graceful in greenery, may be cited as examples less familiar than they might be. The glass corridor, on the contrary, being often a passage way from the house to a billiard-room or to the gardens, might give suitable place to such mid-season subjects as, for example, *Carpenteria californica*, so impatient of fire heat, but so lovely with its great heads of wax-white flowers. I can claim the

credit of being one of the first in this country to raise this fine shrub from seed and of sending it to Kew, where my nurselings were at first received with polite doubts as to their identity, though later on, after due trial, they were installed as being perfectly true to name. I had the pleasure subsequently of being taken to see them by the then curator of the gardens, Mr. Nicholson, when they had grown into blooming size. This happened a good many years ago, but this fine Californian shrub is, even now, not very well known. The finest plant I have ever seen was one which had to be planted, for want of a better place at the moment, at the end of a centre border in a large Rose house, and there it remained till it had to be removed for want of room. It was a wonderful sight when in bloom, with every branch weighed down with lustrous flowers. It is easy enough, however, to keep it within due bounds by judicious pruning, therefore it can be safely recommended.

There are many shrubs of this almost hardy class which refuse to flower in pots, because they require a certain amount of undisturbed, if somewhat restricted, root-room. They are so eminently beautiful that a wide corridor devoted to their culture would be a grand feature. To name a few, there is *Fremontia californica*, with its Fig-like leaves, and yellow, red anthered flowers, craving shade during the hottest sunshine. Another is the South American *Poinciana Gilliesi*, graceful in its pinnate foliage, and with golden hued flowers glorified by their flowing crimson stamens. There is *Abutilon vitifolium*, with its grey-green mealy-looking leaves and bunches of exquisite pale mauve (or white) recurved flowers, so distinct in every way from other *Abutilons* that it would scarcely be recognised as such; it is quite intractable for pot culture. *Buddleia Colvillei*, too, said by Sir Joseph Hooker to be one of the handsomest of Himalayan shrubs, would be suitable for such a position. Its flowers are not rolled up into Orange balls like the *Buddleia globosa* of our gardens, but hang in clusters of white-throated crimson Pentstemon-like flowers from the ends of the branches. At Kew this fine plant is found to be better fitted for the cold house than for any other method of culture. To these may be added *Veronica hulkeana*, scarcely hardy in the open, but one of the very best of the New Zealand *Veronicas*, growing from 3 feet to 4 feet high, and giving a mass of its pretty light mauve spikes during late April and May. Another suitable shrub is *Weigela hortensis nivea*, somewhat unsatisfactory out of doors in most gardens, but worthy to take high rank both for its pretty netted leafage and its bouquets of delicate white flowers. For winter and early spring flowering *Daphne indica* is a noble shrub, content with a back wall so long as it can be undisturbed at the root and can have room to develop. *Luculia gratissima* may also be mentioned with its pretty pink heads, and *Leonotis Leonurus*, which makes such a capital pillar or wall plant with its long soft tufts of orange-scarlet. All these and many others will thrive in a light airy glass shelter in a good aspect with a minimum winter temperature kept just above freezing point. Most of them are hardy enough to live out of doors in favourable positions, but the severe strain upon their endurance prevents such free-flowering as we may fully expect under glass.

It is impossible to do more than suggest plants likely to succeed under cool treatment, but there are enough of all kinds to suit any and every purpose—the choice must be in accordance with individual tastes and requirements. Three shrubs, to use a comprehensive term, which may be found in flower in many a Devonshire garden in November and December, occur to mind as being well worth growing in less propitious climates for the absolutely cold greenhouse. Young plants of the Box-leaved Myrtle flower at a very small size, and though they will grow into big bushes are neat and compact at all times. Beginning to flower in September, they go on continuously, often till Christmas, until compelled to give up by stress of weather. Their creamy-white flowers and pearly buds are welcome indeed at that dull season. About a month later the homely little *Coronilla*

glauca, brave and bright, begins to set about its winter work, and though it cannot boast the beauty of the less known South European species, *C. Emerus*, which blooms in the spring, yet its fresh, blue-green leaves and numerous heads of pale yellow flowers are not to be despised. To complete the trio, we have the winter-flowering *Jasmine* (*J. nudiflorum*), so often cut off by unkind frosts in the midst of its bloom. Grown in a 10-inch pot and fastened not too strictly to a pillar or rafter to allow scope for its pendent branches it is very effective under glass. It may be used also as a trailing plant for a corner and made to droop over a low trellis-like contrivance, which suits its habit better than being treated as an upright semi-climber. It must be carefully cut back, however, soon after flowering. A curiosity may be grown in the Glastonbury Thorn (*Crataegus monogyna praeox*), for though it might be risky to predict that it would actually open its blossoms on Christmas Eve, according to tradition, yet it is in truth a winter-flowering Hawthorn, and might very probably keep up its reputation. Early in the New Year the leafless branches of *Daphne Mezereum* will be covered with rosy purple flowers; of this the variety called *grandiflorum* is considered the earliest and best. The slender growing *Persian Lilae*, also, may very well be grown in a pot, and with a moderate amount of shelter will come early into flower. Amongst spring-flowering shrubs none, however, are more beautiful than the various kinds of *Prunus*, which, botanically, comprise not only Plums, but also Almonds, Peaches, Apricots, and Cherries. Of these may be mentioned the very early *Prunus davidiana*, which in mild weather will flower even out of doors during February. This species has both pink and white varieties, of which the white form with crimson-tinged buds is perhaps the better. The double-flowered *P. triloba* belongs to the Apricot group, while *P. japonica fl.-pl.* is a most beautiful pink or white-flowered Cherry, for there is more than one variety. Like other fruit trees (though these are only cultivated for their flowers) they may be grown in pots, and require to be carefully spurred back soon after flowering to keep them within due limits. *P. japonica*, which is naturally of low growing bushy habit, will, after pruning, send up many strong shoots from the base during the summer; these will flower their whole length the following season to a height of from 2 feet to 3 feet. Being perfectly hardy, flowering shrubs of this latter class take up no room under glass when their purpose is accomplished, but they must receive kindly shelter in good time to bring them into bloom before their normal season.

Amongst smaller growing shrubs, *Deutzia gracilis* is an old favourite which we cannot do without. One of the most graceful of any when in flower, blooming well in a 4½-inch pot if desired, and only asking to be cut back immediately after flowering to do better every spring—how it would be prized did we not know it so well! A new variety, amongst the many raised by M. Lemoine of Nancy, called *D. kalmiaeflora*, from a fancied resemblance in the shape of the flowers, was exhibited last spring at the Temple show. The flowers are pale pink, edged with a deeper blush, and it will probably become more popular as time goes on.

Hardy *Rhododendrons* of the very early flowering section deserve the protection of glass, for in two seasons out of three their flowers are apt to be spoilt by snow and inclement weather. One of the first to bloom is *R. nobleanum*, but the varieties called *R. praeox*, *R. ignescens*, and *Early Gem* are not far behind. Another early species is *R. dahuricum*. It is astonishing how spreading plants like these can flower and flourish in so small a space, but they may often be seen with several fine trusses quite happy in 5-inch pots. In choosing *Rhododendrons* for pot work it is always safe to rely upon the judgment of experienced growers for good varieties suitable for the purpose. Amongst other plants of shrubby nature *Moutan Paeonies* are much recommended for pots, and are found very useful to bring into large conservatories in flowering time.

Of miscellaneous shrubs coming under no special class there are many which might be suggested. *Choisya ternata*, though found in most good gardens out of doors, may yet be given a place for early flowering under glass. The hardy *Abelia rupestris*, with its pendulous mauve-white flowers imbedded in red-brown bracts, is charming either in a large basket, or, if planted out, it will make a handsome autumn-flowering shrub, good enough to join the choicest company. *Nerium Oleander*, though more tender, is worth growing, especially in some of its less common single white or pale yellow and buff forms. It flowers freely whether in small pots or in large tubs, but requires protection from actual frost and abundance of water in the growing season. Both the *Brugmansias* are good and not very commonplace half-hardy plants, either for a greenhouse border or for large pots or tubs. In fact, *B. sanguinea*, with long orange-mouthed tubes, treated as a herbaceous plant, succeeds well out of doors up to a point, but beyond that it will not go. It springs up strongly from the stool in the spring, and in the course of the summer the robust branchlets cover themselves with fine buds, which just begin to open when frost cuts them off. Under glass they are safe, but the same plan of cutting down ruthlessly to the ground level after blooming, even for pot plants, may be recommended, as it keeps them in better shape. The flowers of *B. suaveolens* are white and trumpet-shaped, and though it is perhaps a trifle more tender, it requires much the same cultural treatment.

Two little grown plants must close the list, which might be much prolonged. How seldom do we see the *Pomegranate* (*Punica granata*) in English gardens, except occasionally on a warm wall in the southern counties, yet there is no shrub more worthy of planting out, if there be a fitting position for it in corridor or glass-covered verandah, or for growing in a tub, as we may see it so frequently abroad. The brilliant scarlet flowers, whether single or double, more than anything else are suggestive of warmth and sunshine, while the shining foliage, red tinted in the young spring shoots, is always beautiful.

The other plant of very different character is *Echium fastuosum*, little known and less grown. It may be called a shrub by courtesy, since it is not herbaceous. This remarkable bushy Bugloss was figured in a coloured plate in one of the earlier volumes of *THE GARDEN*. Falling in love with its portrait, I obtained seed and raised it, and in due time reaped a rich reward for my pains in its magnificent heads, some 8 inches or 9 inches long, of deep gentian blue flowers. A very similar species, *E. callithyrsium*, is equally handsome, and only a trifle paler in hue. They come from the Canary Islands, and are by no means hard to grow. The foliage, as in all *Echiums*, is rough and shaggy, and the bush grows large and spreading, but any one who has seen its uncommon beauty would consider it worthy of some trouble to grow well. Whether as a fine specimen in a 10-inch pot, or planted out in a wide border, few things are more striking in their way than these two species of half-hardy Bugloss for the decoration in April and May of the unheated greenhouse.

K. L. D.

RECENT PLANT PORTRAITS.

THE tenth part of the sixteenth volume of *Lindenia* contains portraits of the following four Orchids:—

Vanda teres var. *candida*.—This is a lovely pure white flower, with a little pale yellow in the throat and a faint shading of rosy purple lines on the lip.

Odontoglossum crispum var. *la Reine*.—A very fine form, with white ground and deep, large rosy purple blotches on all the four petals and the lip of the flower.

Calanthe Mylesi.—A fine pure white-flowered form, with pale yellow shading in the throat of the flower.

Cymbidium tigrinum.—A curious, but not very beautiful variety, with long racemes of greenish brown flowers, with a white lip and spotted with brown.

The second part of the *Revue Horticole* for January contains a coloured plate representing three varieties of hybrid *Syringa* or *Lilac* named *Breitscheideri*, *Breitscheideri hybrids*, and *Josikura*; of little beauty or interest.

W. E. GUMBLETON.

KEW NOTES.

IRISES.

IRIS STYLOSA, both in its blue and in its more delicate white form, has been in flower more or less since the autumn under warm walls in various parts of Kew Gardens, but it was a surprise and a delight, in midwinter, to come upon a colony of some of the new and rare Taurian species, discovered in recent years by Herr W. Siehe in Asia Minor, growing and flowering happily in a similar position. *I. Heldreichi*, to which he gives the palm, was in flower in the open border on January 25. Its tone of colour—bright blue-purple, with an under note of grey—is most delicately beautiful, and deepens at the points of the outer petals into dark velvety blotches, with pencilled featherings below. The flowers have great substance, lasting well, which is a strong point in their favour, as those of many of their tribe are very fleeting, and a planting 1 foot or 2 feet square is most attractive. By its side, *I. Tauri*, of much the same shade of red-purple, is probably still more hardy, as it is found in the high alpine pastures of the Eastern Taurus Mountains at a height of more than 6,000 feet. *I. Heldreichi* seldom reaches beyond the lower level of the upper belt of forest land, where, we are told by Herr Siehe, it grows under the shelter of the fine variety of the Corsican Pine, which inhabits those regions, and this species naturally flowers earlier than *I. Tauri*. At Kew, under cultivation and under identical conditions of climate, we find them blooming side by side in January and early February. Both these Irises, though much more vigorous in constitution, stand in close relation to *I. persica*, a variety of which *I. persica Magna*, a capricious beauty by all accounts, had opened three of its somewhat dusky blossoms. The bright yellow flowers of *I. Danfordiae* (syn. *I. Bornmülleri*) catch the eye from a considerable distance and are very effective, though at close quarters they are scarcely so shapely in form as their associates. A single flower, hard by, of *I. Vartani*, whose habitat is the neighbourhood of Nazareth, and which usually blooms in October, came in very handsomely for comparison with its congeners from Asia Minor. It is not reckoned so good or so useful from a garden point of view as either of the above-named species, but its remarkable grey-blue flower, freckled with dark spots, is very striking, and, even though its character be doubtful, seems well worthy of further effort. It is good to think that want of hardiness is not likely to bar the culture of these beautiful bulbous Irises out of English gardens, and that new discoveries are still adding to their number. Their value is much increased by their flowering at this early season. Beyond the shelter of a wall and of a Fir bough or two, no extra precaution seems to have been taken in the way of giving protection. Probably our damp climate, with its manifold alterations, will prove the worst enemy to be encountered with in their cultivation.

THE ALPINE HOUSE.

In the alpine house a charming little Californian bulb, *Scelopopus Bigelovii*, with flowers of quaint colouring and form, cannot be passed by. The mottled leaves and small Lily-like flowers suggest an *Erythronium*, but their structure, on closer view, is entirely distinct, and their pink-brown tint, with dainty pencillings of deep chocolate, is rare amongst hardy plants. It is a bulb to delight the heart of a keen plant lover, though better suited, perhaps, for a cold greenhouse in a position near the eye than for the open border or rock garden, where its peculiar charms might be overlooked. *Primula megacephala*, a pretty purple Primrose from the Caucasus, is also in flower here. Its habit of throwing up folded and polished pale

brown leaves from the crown, which afterwards turn to a dark green with a dull surface, is very characteristic. Amongst the more unusual plants, besides *Iris Heldreichii*, pans of which are very ornamental in the alpine house, may be named *Leontice Alberti*, with clusters of drooping yellow flowers tinged with red-brown, and glaucous, much-divided foliage; and also a form of *Winter Aconite* (*Eranthis cilicica*), with a finely frilled calyx, from Asia Minor.

IN THE ROCK GARDEN

nothing is moving much, except the Snowdrops, of which there are clumps of several fine species, but, after all, none of them can beat the time-long friend which spreads its white carpet so bountifully under some of the grand old Chestnuts and Beeches of the wilder parts of the garden.

OBITUARY.

MR. LEONARD KELWAY.

WE are grieved to announce the death, at the early age of twenty-one, of Mr. Leonard Kelway, second son of Mr. William Kelway, of Brooklands. The *Langport and Somerton Herald* says: "Only three weeks since Mr. Leonard Kelway was taking part in a concert at the Town Hall in aid of the Langport Institute, and appeared to be in his usual health. On the Sunday evening following the concert Mr. Kelway, who was a valued member of the choir of St. Mary's, Huish Episcopi, after service complained of severe pain in the head. This quickly developed, followed by other complications, and he passed away on Wednesday morning, the 5th inst., after many days of unconsciousness. Death was attributed to influenza, complicated with meningitis and pneumonia. Mr. Leonard Kelway was born at Riverslea, Langport, in 1880. He was educated at Sherborne School (Wilson's House), which he entered in 1894. He always took the keenest interest in athletics, and was probably the best gymnast Sherborne has produced since the erection of the gymnasium. He was one of two to represent the school, for three years in succession, at Aldershot in the Public Schools Gymnasium Competition. He was a member of the Cadet Corps, captain of the "Gym," captain of his House, and member of the School Games Committee for some terms previous to his leaving Sherborne in 1898 to join the firm of Messrs. Kelway and Son. Mr. Leonard Kelway took a great interest in music, was a member of the choir of Huish Episcopi Church, and an ardent supporter and leading spirit in anything that made for the cheerfulness and amusement of the parish; and much sympathy is felt for the family in the loss of a promising young life." The funeral took place on Saturday last.

MR. F. J. GRAHAM.

THE light of a life which linked the present to the past went out at Cranford, Middlesex, a few days ago, by the death of Mr. F. J. Graham at a great age. He had lived in retirement for a number of years and had outlived his contemporaries of fifty years ago. Mr. Graham was at that time an extensive cultivator of fruit for Covent Garden Market, and on the formation of the British Pomological Society in 1854 he became one of its active members; and when the Fruit and Vegetable Committee of the Royal Horticultural Society was formed in 1861 Mr. Graham was appointed one of its vice-chairmen, and he remained a member of that body for several years, and was an intimate friend of the late Dr. Hogg, and afforded him considerable assistance in the compilation of his "Fruit Manual." Mr. Graham's name is handed down to us as the raiser of Graham's Yellow Perfection Wallflower, which was produced as the result of careful seeding and selecting through many generations. The object set out to be attained was to produce a variety in which the flowers should be of a pure yellow colour—yellow in the bud as well as in the expanded corolla, of large size, and of good form, and also richly

fragrant. At a meeting of the Royal Horticultural Society held in the spring of 1863 this variety received a commendation as "a beautiful, brightly coloured, hardy, spring flower."

MRS. BRIGGS-BURY.

WE regret to record the death of Mrs. Briggs-Bury, of Bank House, Accrington. The deceased lady was one of the chief supporters of horticulture in the North of England for many years. For some time past Mrs. Briggs-Bury had devoted her attention to Orchid culture, and had formed one of the finest collections in the North. Understanding thoroughly the characteristics of the different sections of the Orchid family, she was able to collect and secure many of the best species and hybrids of *Cattleyas*, *Lelias*, *Lelio-Cattleyas*, *Cypripediums*, and *Odontoglossums*, which have found a home in her collection. She was a constant exhibitor at and supporter of the North of England shows and meetings, and occasionally at the Royal Horticultural Society's meetings. The plants submitted to the Orchid committee of the latter society rarely passed without receiving recognition, and illustrated sufficiently the keen judgment of the deceased as to the merits of the subjects submitted. Her kindly disposition to all she came in contact with will long keep her in memory. H. J. C.

PATRICK ROSE-INNES DAVIDSON.

On Monday, the 3rd inst., at "Greythorne," 89, St. James's Road, Wandsworth Common, S.W., Patrick Rose-Innes Davidson, formerly of Iwerne Minster, Blandford, Dorset, in his 76th year.

MR. F. W. FLIGHT.

WE are very sorry to hear of the death of this well-known *Chrysanthemum* raiser and rosarian. His garden at Cornstiles, Twyford, Winchester, is one of the prettiest in the county, and all interested in gardening were always welcome to see the flowers there grown with such success. Several varieties of *Chrysanthemums* are named after Mr. Flight and members of his family.

Flower photographs.—At the first annual conversazione of the Catford and Forest Hill Photographic Society, Mr. G. H. Bard, of Messrs. Carter and Sons, 119, Holborn, exhibited a series of most interesting lantern slides depicting many delightful arrangements of flowers as well as individual plants of *Primulas*, *Cinerarias*, and *Calceolarias*, all of which were from photographs taken in the nursery of the firm at Forest Hill.

The Coronation flower.—So many letters have reached us on this subject, nearly all suggesting some different flower, that we desire to give our opinion: in the first place that there is no special Coronation flower; and in the second place, that as the Coronation is to take place at the time of Roses, and that as the Rose has for many centuries been a royal badge in England, that if one flower more than another may be called the Coronation flower it should be the Rose. Among the claimants are *Lily of the Valley* (out of season in June), *Irises*, *Paeonies*, and *Carnations*, all beautiful and delightful flowers, but no one of them can show grounds for any individual claim to be called the Coronation flower rather than any other. We do not invite further correspondence on this subject.

Horticultural Club.—A most enjoyable evening was spent at the Horticultural Club on Tuesday when the chair was taken by Sir J. T. Llewellyn, Bart., who was supported by the Revs. W. Wilks, J. H. Pemberton, and J. C. Eyro Kidson, Messrs. J. H. Veitch, A. H. Pearson, George Paul, Peter Kay, W. J. Grant, P. Ker, C. T. Drury, George Bunyard, G. J. Ingram, and others. The annual meeting was held in the afternoon. We must leave over a full report until next week.

The Rev. H. D'ombrain.—We are very sorry to hear of the Rev. H. D'ombrain's serious illness, but recent reports happily show he is in some degree recovering. We have for many years

admired his pluck in attending meetings in London in the face of severe physical infirmities. Feeling allusions were made to his illness at the annual meeting of the Horticultural Club on Tuesday, and at the committee meeting of the National Rose society. Mr. D'ombrain has been compelled to resign the secretaryship of the club and the co-secretaryship of the society.

Kidderminster Horticultural Society is progressive. We have just received a strong handy member's card of fixtures for the present year, similar to the card of the Royal Horticultural Society. The following lectures will be given: March 12, Mr. Ed. Kromer, upon "An Orchid Collector's Travels through British Guiana to Brazil" (illustrated with lantern slides); April 9, Mr. F. E. Shrivell, "Chemical Manures as Supplied to Garden Crops"; May 14, Mr. J. Udale, "The Culture of Vegetables"; September 10, Mr. D. B. Crane, "Outdoor Chrysanthemums," with a small exhibition also; October 8, Mr. F. G. Treseder, "Dahlias"; November 12, Mr. W. Crump, "The Management of Fruit Trees on Walls." Besides this excellent list of lectures there will be, on a date not yet fixed, an excursion to the Midland Daffodil Show at Birmingham; July 5 (by kind permission of Mr. Udale), an excursion to Droitwich Experimental Garden; July 9 (by kind permission of Mr. W. Adam), a conference on Sweet Peas at Lyndholm; and on October 15 takes place the general meeting. The chairman of the committee dealing with the lectures is a valued correspondent, Mr. A. Goodwin. The secretaries of the society are Messrs. H. Linecar and W. H. Linecar. We are pleased to notice that the Kidderminster Free Library is getting quite a horticultural library together, and the society has printed a list of such books that may be lent and referred to. This is a step in the right direction. It would be well if all horticultural societies within touch of a free library did the same. The cost is not great, but the benefit conferred is far-reaching. In the leaflet sent is this paragraph: "Should there be, as a consequence of the issue of this special catalogue, an increased demand for works of such a character, other books will doubtless be added, as the free library committee will be pleased to render us whatever assistance they can."

Oxton Hall Garden.—In the description of this well-known Yorkshire garden in our last number, by Mr. H. J. Clayton, a slight error crept into the writing of the name. This should, instead of Otton, have read Oxton Hall.

Richmond Hill.—A public meeting of owners and ratepayers was held at Ham last Saturday to consider the question of the opposition to the Richmond Hill Preservation of View Bill, by which power is sought, in exchange for the grant of certain privileges to the public of Petersham and Ham Commons and the lands adjoining the Thames towing-path, to enable the trustees of Lord Dysart's estate to enclose about 200 acres of lammas land at Ham adjoining the river. The chairman (Mr. W. Walker) said that when the trustees introduced a similar Bill in 1896 they offered Ham compensation equivalent in value to £14,000 or £15,000. Now they offered them nothing, for the rights which the trustees offered to concede in respect to Ham Common were already in the enjoyment of the village. Ham was willing that the view from Richmond Hill should be preserved, but not that all the advantage of the transaction should go to Richmond and Kingston, and that Ham should give everything and receive nothing. A resolution instructing the District Council to oppose the Bill was unanimously adopted.

Old Herbals.—Will not some one with literary taste and a love of flowers prepare a new edition of both Parkinson's books on flowers and Gerard's "Herbal"? This idea will, I am afraid, be looked on as a sort of desecration by those who are fortunate enough to possess copies of the originals, but there is such a keen sale for any that come into the market that there must be many flower lovers who would gladly welcome even a modern edition of either, provided it was a faithful copy of the original and not spoilt by modernising its old-time quaintness.—E. C., Surrey.

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THE BOTHY.

AN interesting discussion is promised upon the subject of "The Bothy," and we publish a few of the letters received, with, in one instance, some necessary remarks.

THE question, opened in THE GARDEN, February 1, of bothy accommodation for the younger gardeners employed in large establishments is a most important and useful subject of discussion, but, practically, it is not altogether an easy matter of arrangement. The original Scotch bothy was rough in the extreme—a mere shelter in most cases, where the farm lads, with national frugality and independence, fared for themselves as best they might and endured hardships without a grumble which to their southern brethren would be intolerable. There was, perhaps, but little to recommend the system, save that it helped to build up a rugged, self-reliant character, unaccustomed to even the most simple luxuries, not to speak of necessities, of ordinary civilised life. Hardiness of this kind is not altogether to be despised, but it is an extreme into which the present generation is not likely to be betrayed, for the tendency of the day is all in the opposite direction. A bothy nowadays means something very different, and very rightly so, and, well managed, is an admirable institution. The chief drawback, perhaps, setting aside the question of expense, is the fear of making things too easy at the outset of life, which must needs be difficult in the long run, at the risk of weakening individual character and effort.

Of late years, unhappily, many landowners, perhaps the majority, have been obliged, owing to agricultural depression, to reduce their outlay, and a suitable building simply but adequately equipped is, of course, a costly addition to the working expenses of the garden; but, once provided, the yearly cost need not be very great beyond the necessary repairs on account of wear and tear. Quite as important as the building is a suitable housekeeper—a personage not always easy to find, but who might very well be, where possible, a capable, middle-aged married woman from some neighbouring cottage, well acquainted with the needs of working men, who could come in daily to attend to the necessary details of cleaning and cooking. Other arrangements as to food, washing and mending, &c., are better left, as a rule, to the men themselves, who can club together or otherwise, according to their own proper wants and wishes. A lock-up cupboard provided for each man is a boon very much appreciated.

Luxury of accommodation close to work such as this is, however, not always possible even in large gardens, and it is not indispensable when decent lodgings are to be found within reasonable distance. In many cases the gardeners themselves prefer a more independent life to that of a community, even though it offers advantages of economy not otherwise to be attained. Where the larger bothy for board and lodging is not expedient, a modified building, to be used at meal times when the quarters are at some distance and as a reading and recreation room in the long winter evenings, is an advantage which can scarcely be over-estimated. The addition of a bath-room here would be a great

boon, since such conveniences are not usually found as yet in country cottages.

In one case, well known to the writer, where a large number of men were employed in garden work, the parson made a point of keeping in touch with these younger members of his flock, who were mostly units gathered from distant parts of the country, by going every now and again to the reading-room provided and joining them in bagatelle and other games, while a musical daughter of the parsonage got together a successful brass band, and did much, by training and practising for an occasional village concert, to keep the lads out of the way of the temptations that beset them. Thus, on the occurrence of some private trouble or difficulty, any one amongst the number were sure of a friend well known, to whom application for help or advice might be made. In summer nothing can be better than the privilege of a cricket pitch for practice, which can often be granted without any great difficulty. A free discussion of the question, with practical suggestions, is much to be desired, and the editors of THE GARDEN are greatly to be thanked for taking the initiative.

Scotland.

R. B.

SEEING that in an article on bothy life (THE GARDEN, February 1) head gardeners and young men are invited to give their views, and having been a bothy man myself for a few years, I should like to say what I have gone through.

I was never lucky enough to drop into one of those well-arranged, home-like bothies, neither have I ever heard of one, and, from what my bachelor friends have told me, who have travelled in different directions to myself, I am inclined to believe that they are, like high wages in gardens, few and far between. The only thing home-like I have seen in a bothy is when you see your friends trying to patch up the "seats of the mighty," or when they are struggling to put a housewifely darn in their socks, after which, if a fellow is blessed with small feet, he may be able to walk in his foot-gear cobbled up with whalebone stitches. If not he has to fall back on the everlasting ones of Nature's providing; I do not suppose a sock merchant would know of the article, but a bothy chap would tell you all about it.

I quite believe there are some wise gardeners about. I know some of them try to make the bothy home-like by putting a bit of paper on the walls and keeping you well supplied with bits of rag with which to keep the duty lamp clean, and who give a 6-foot plank and two seed boxes to make a kind of seat to get your meals comfortable, but if you should mention bath-room you get the fatherly reply that you can use the stove tank with perhaps enough water in it to cover your ankles, if it is filled by what falls on the roof.

As to well-organised arrangements for buying food. It is easy to buy good food for ready money, but not so easy to get it decently cooked by the bothy domestic, generally some poor old body that has served her time sweeping up leaves and pulling weeds in the garden, and has got too old for the job and is sent into the bothy to clean up in a sort of way and spoil the food. No matter how tender a joint the butcher brings, by the time the active bothy cook has done what she calls roasted it and decked it with Parsley, like verges round a gravel walk, when you come to put your teeth into it you think it must be a joint off the horns.

When they are supplied by such food-spoilers, is it to be wondered at that young gardeners wear a worried and hungry appearance? As to having separate beds, it is not known in some bothies. I have seen three in a bed, two at the top and duty chap at the foot, so that he can be kicked out in good time, unless he wants some good fatherly advice rubbed into him before breakfast. As to the wholesome amusement we get in the bothies at night we mostly turn the light low and wait for the blackbeetles, with slipper in hand ready for the order to fire.

I dare say if this is published in THE GARDEN I shall be thought an out-of-date scholar by a good many fatherly men, but I hope some of the bothy occupants will help me through who are daily being killed with the badly cooked food and worries.

Herts.

S. P.

[We are glad to print our correspondent's letter, as we fear that the discomforts prevailing in many bothies are fairly represented in this example, and we hope to bring the fact to the notice of owners of large gardens. Such conditions cannot fit a young fellow for his work, and must be a bad influence in the formation of his character and habits. We cannot complain of the "grousling" tone of the letter, and can only commend a certain quality of humour of a grim kind which shows that this young man, and no doubt his fellows in general, would respond with keen appreciation to bettered conditions. Overcrowded, in a wretched place not clean of vermin, and with good food spoilt, who shall condemn the lads for ill-humour? It is just in the hope of showing that such conditions exist, and are even common, that we have opened our columns to the discussion of this important subject. Happily, there is also a bright side to the dark cloud, and we shall hope to show shortly that the fatherly and even motherly influence is practically at work for the bettering of bothy life, and is not merely a word to be used in sneering quotation.—EDS.]

IT is, I am sure, with feelings of thankfulness to the editors of THE GARDEN that many gardeners, both young and old, will note and accept the invitation to discuss the bothy, with a view to making its often entirely unsuitable conditions more generally known, and in the hope that something may be done to effect an improvement in them. I will leave it to others to say how urgently needed are these improvements in our bothies at home—although I could describe them sufficiently well—and give your readers a description of life in a bothy in France, which may be interesting as a comparison. It is only of one bothy that I shall speak, and there are probably others that differ entirely from this one—and for the better. Such is also the case in this country, although I am afraid the bothies that are as they should be are very much in the minority.

The garden to which the bothy that I am about to describe is attached is, however, one of, if not the most, important, both as regards size and repute, in France. As such, therefore, it should have been a model to others of less importance. When I say that there were usually about twenty-six or twenty-seven young gardeners, sometimes thirty or more—the numbers fluctuated—living together it will be recognised that the housing of them was no small matter. And, as is often the case in Continental gardens, the company consisted of repre-

representatives of many European nations—Austrians, Swedes, Swiss, French, Belgians, English, &c. That a certain amount of grumbling was inevitable must be admitted, for all had to conform to the customs of the country, and this naturally took some little time. The worst feature of this bothy was that it was situated over stables. The house was a three-storied one, the stables taking up most of the ground floor, whilst the first and second floors were given over to bedrooms. That portion of the ground floor not occupied by the stables—about one-third—consisted of the kitchen and dining-room. One can hardly imagine anything more deplorable than this, even in an English bothy. True, we had only two meals per day—*déjeuner* at eleven, and dinner at six. For six days out of the seven a very old lady did the cooking, and on Sunday we did our own. How the wind used to whistle under the doors of that dining-room, which, by the by, served also as library, sitting room, &c. Chairs there were none, the benches around the table served also when the meal was over for seats.

Imagine the crush to get near the fire on a winter's night when the thermometer registered 20° or 30° of frost out of doors! And for those who were unfortunate enough to be on duty and obliged to stay up the whole night (every four hours the temperatures of the various houses had to be registered on a specially printed form, and it needed about an hour to do this, so far apart were some of the houses) what a comfortable and cosy room to turn into! One dared not lie down on the bed in case one should drop off soundly to sleep, so the tables had to serve for a bed, and this certainly had the advantage of preventing one from sleeping comfortably. Carpets were a thing unheard of.

It must be allowed that the bedrooms did not give much cause for complaint, except it was that one had to attend to them entirely oneself. And, as if this were not bad enough unexpected inspections were periodically made by the head gardener to see that the rooms were kept clean and tidy. In default of this fines were imposed. In order to avoid the possibility of being fined the room must be tidied during the hour of *déjeuner*, for it was then that the inspection was always held. This precaution was, however, often neglected. To avoid the toil of carrying the water for washing downstairs—and there was a strict rule for this to be done—some would wait, and often in the dead of the night could be heard a loud splash, and all knew its meaning. Woe be to any late arrival who should happen to be passing at that moment. Each bedroom was provided with an excellent stove, and this was much appreciated. Life in the bothy then has its humorous side, but this is lost sight of when one contemplates for a moment the neglect and discomfort that dwellers in the bothy are subjected to. It is much to be deplored that young gardeners, striving hard to make progress and to perfect themselves in their work, should so frequently not be provided with even respectable accommodation; it is also to be hoped that good will emanate from the discussion now promoted, and that something may be done to remove what undoubtedly is a disgrace to many gardens throughout the country. A. G. C.

NOTES OF THE WEEK.

Forthcoming events.—Tuesday, February 25, Royal Horticultural Society's committees meet, Drill Hall, Buckingham Gate, Westminster; Saturday, March 1, meeting of the Société Nationale d'Horticulture de Londres; Tuesday, March 4, meeting of the National Amateur Gardeners' Association.

"The Garden" of March 1.—Next week we shall publish articles of special interest and importance at this season, including "The Sweet Pea and its Newer Varieties," by Mr. R. Dean; "Vegetables for Exhibition," by Mr. E. Beckett, and illustrations of Cotton trees in a Jamaica garden, the hardy alpine house in the Royal Gardens, Kew, the value of annuals for

quick effects, Hubbard's Pearmain Apple, the new Frilled Persian Cyclamens, H. T. Rose Gloire Lyonnaise, a shrubby border, *Prunus serrulata* in flower, &c. The usual features of the paper will not be interfered with.

The Royal Horticultural Society. Its finances and the proposed hall.

—We have more than once expressed the opinion that to drain the finances of the society by a costly building scheme would be the quickest way to bring it to ruin. The excellent committee appointed probably has some sound and reasonable scheme, of which we know nothing, to lay before the Fellows, but we desire to say emphatically that no hall can be built and maintained, and no site can be purchased with the society's present funds without grave danger for the future. We feel it only a duty to do all in our power to discourage so dangerous and hollow a scheme. We speak thus strongly because no general appeal has so far been made for funds. The society can *help*, but it is not rich enough to afford luxuries.

Tree and shrub photographs.—We shall be grateful for any photographs of trees and shrubs that may be sent to us showing the beauty of grouping, individual examples, and their value in the garden and pleasure ground. The gardens of England are full of beautiful trees and shrubs, sometimes of an age that renders them more picturesque and interesting than in the earlier stages of growth, and if possible we wish to get photographs of these.

Viola Blue Bell.—The remarks respecting this *Viola* in THE GARDEN of February 8 last appear to me only historically interesting. I am quite convinced that they will never induce growers to refrain from cultivating the newer varieties, which are more satisfactory in every way. I saw the display of *Viola Blue Bell* in the gardens at Syon House, to which reference is made, and Mr. Wythes used the plant most effectively. But at that time I expressed the opinion that there were many other prettier and better varieties which would make even a more pleasing display. Although I have visited many gardens in which *Violas* have been largely used, I cannot at the moment call to mind one where this particular variety was used, save at Syon. Mr. W. H. Lees when in charge of the gardens at Trent Park planted *Violas* or tufted *Pansies* freely and with splendid effect. Among those he liked were *Blue Gown*, *Ethel Hancock*, *Pembroke*, *Sir Robert Peel*, *William Niel*, *Duchess of Fife*, *Florizel*, and *White Empress*. Several of these have been raised within the last eight years, and not only are they free-flowering, but the habit of growth is excellent. The writer is quite in error in suggesting that the newer varieties are simply considered exhibition flowers. About eight years ago, *Violas* were much exhibited in sprays, particularly in the south of England, but this feature of our exhibitions has in a large degree disappeared. The Scottish growers, however, still regard the exhibition *Viola* with favour. The sole idea of the raisers has been to make the garden more beautiful and attractive by their use, and in this they have been singularly successful. We are indebted to the late Dr. Charles Stuart, of Chirnside, for many charming varieties, both in habit and colour. Mr. William Sydenham, of Tamworth, than whom there is no greater enthusiast, and certainly no more successful raiser of new *Violas*, was most opportune in his protest last week. Mr. Sydenham grows these plants by the hundred thousand, and in consequence is well qualified to express an opinion.—D. B. CRANE.

Clerodendron splendens.—Though introduced upwards of twenty years in advance of C. Thomsonæ, the species under notice is not so well known, although in its way it is quite as well worthy of attention. It is a native of Tropical Africa, was introduced about 1839, and makes fairly strong, rambling branches, with oblong, pointed leaves having undulated margins. The flowering period is variable, inflorescences sometimes being borne in summer and sometimes in winter. The flowers are scarlet, and in large, terminal corymbs, which hang gracefully from the branches. Stove culture is required, and although

it succeeds best planted in a well-drained border it does well as a pot plant. At the present time a fine plant is smothered with flowers in the stove at Kew.—D. K.

Cultivation of bush fruits.—Mr. Alfred H. Pearson, of Chilwell Nurseries, Lowdham, Notts, recently gave a lecture on the above subject before the members of the Kidderminster Horticultural Society. The lecturer's remarks upon Gooseberries, Raspberries, and Currants were listened to with great interest. Mr. Pearson included bush Apples in his remarks, and gave the audience valuable instructions with reference to their culture. A hearty vote of thanks was accorded Mr. Pearson, on the motion of Dr. Gibbins, who presided.

The Horticultural Club.—As recorded last week, this famous club has begun a new lease of life, and strong efforts are being made to make it a centre of influence in all that concerns horticultural progress. The stirring address of the Rev. W. Wilks at the annual dinner will have the effect of making the value of the club more known, and we are pleased to know that several influential horticulturists have joined within the past few days. Mr. Wilks referred to the excellent relations existing between the society and the club, which, when the society was passing through a time of extreme anxiety as to its future, formed a strong support. It was the duty of the Fellows of the Royal Horticultural Society to support the club. Mr. Wilks remarked incidentally that it was through the club he became secretary of the society. In THE GARDEN of August 24, page 130, a history of the club is given by the Rev. H. D'Ombrain, its founder, who has been compelled to resign through increasing infirmities, to the regret of every horticulturist, and a portrait of the president, Sir John Llewelyn, Bart. The following are a few extracts from Mr. D'Ombrain's article: In the year 1889 the club established itself at the Hotel Windsor, close to the Drill Hall and the offices of the Royal Horticultural Society. "Our chairman during this period was the late Mr. John Lee, than whom there was no more respected horticulturist in the kingdom, but the weight of many years at last told on him. His attendance at the meetings became irksome to him and eventually led to his resignation, but Sir John D. T. Llewelyn, Bart., was elected chairman to succeed him, while Mr. Harry J. Veitch was elected vice-chairman, and it would be very difficult to find in the whole range of horticulturists two more popular men, genial and kind. They are ever ready to advance the interests of the club. What, then, were the objects sought to be obtained by the club? In the first place, it was designed to bring together in social intercourse all those horticulturists who might wish to join its ranks; then it was enabled to open its doors to the various special societies who required a place of meeting for their committees, and so the National Rose Society, the National Dahlia Society, the National Auricula Society, and the National Carnation and Picotee Society were all glad to avail themselves of its rooms. Here also the Gardeners' Royal Orphan Fund found a place of meeting. At first the monthly meetings of the club were only regarded as pleasant places to have a chat on horticultural things, but some years ago one of its members, Mr. Charles T. Drury, proposed that it would be more profitable and equally agreeable if some subject were brought forward by one of the members at our monthly conversazione, which might open the way to a pleasant discussion on the subject thus introduced. These discussions have been much enjoyed by members, and have been both pleasant and useful. Another object had in view was that of returning the hospitality afforded to many of our horticulturists who go abroad, by inviting foreigners to partake of the hospitality of the club. They have from time to time been invited to join us, and especially when the conference on hybridisation was held, a considerable number of those who had shared in its deliberations met together in its rooms, and expressed themselves very gratified at the welcome accorded to them. Another object was the annual excursion to various noteworthy gardens within reasonable distance of London."

Climate of New South Wales.—Mr. John Plummer, of South New Wales, writes:—"The climate, both as regards rainfall and temperature, is an ideal one, and, combined with the dark red volcanic soil, explains the remarkable fertility of the district, also the immense variety of crops successfully grown. Plants, fruits, and grasses peculiar to tropical or semi-tropical localities are here found growing side by side with those of the temperate climates, and both flourishing in an equal degree. At Wollongbar, for example, Banana groves are to be seen luxuriating within half a mile of healthy and prosperous-looking fields of Wheat, Oats, and Barley, while the Queensland sweet Potato is found growing alongside 'Brown Rivers' from Tasmania, Maize adjoining Sugar Cane, Pine-apples, Arrowroot, and Tapioca, with Carrots, Turnips, and Mangels, Melons, Pumpkins, and Squashes with Sunflowers, Pawpaws, and Yams, Lucerne, Clover, and Paspalum with Ramie, Manilla, Hemp, and the Coffee plant, Grapes, Oranges, and Lemons, with Passion Fruit, Mangoes, and Peanuts, while in what is called the 'grass garden,' there is to be seen probably the finest and most numerous collection of grass and fodder plants at present growing together on one farm in Australia."

A City churchyard (St. Andrew-by-the-Wardrobe).—The alterations in connection with the churchyard at the above, which is situated next to the Bible Society in Queen Victoria Street, have now been completed. In place of the high and ugly blank wall new wrought iron railings and stone piers with carved vases have been erected. The wrought iron gates were given by Mrs. Banister Fletcher in memory of her late husband, who was churchwarden. The churchyard has been laid out in terraces and covered with turf, exposing one of the best samples of Wren's churches to public view and adding another green spot to London's dingy exterior. The whole work may be reckoned one of the public improvements of the City of London. The work has been designed and carried out under the superintendence of the architects, Messrs. Banister Fletcher and Sons. The keys, if required, are to be obtained from Thomas J. Whiffen, Esq., 30 and 31, *St. Andrew's Hill (adjoining), Queen Victoria Street, E.C.*

Iris kolpakowskyana.—I send a few flowers of *Iris kolpakowskyana*. It is a native of the Raratan Mountains, Turkestan, and is without doubt one of the very finest of the reticulata group. It is somewhat difficult to successfully cultivate, but will repay all the trouble taken on its behalf. We find that a little coddling is very beneficial, and have been growing it under a handlight on a warm, dry, protected corner, and I have every hope of this charming little *Iris* becoming established. The thin, tapering standards are rosy lilac, whilst the falls present a very striking contrast, the lip being a rich crimson-purple with a distinct yellow background. On a warm day it has a most delicious perfume, but on cold, wet days it is almost odourless. *I. Danfordiae*, *I. persica*, *I. reticulata purpurea*, and *I. palaestina* are also in flower, but of course well protected.—AMOS PERRY, jun., *Winchmore Hill, London, N.* [This is one of the most beautiful bulbous *Irises* we have seen, and should be taken note of by all interested in this fascinating group. Mr. Perry has described the colour, but no description can convey any idea whatever of its wonderful richness and distinctness, while the subtle perfume is as strong as in *I. reticulata*. It is a perfect gem amongst bulbous *Irises*.—EDS.]

Clianthus Dampieri.—The Glory Pea of Australia is a peculiarly distinct and beautiful flowering plant, not so often met with as it deserves to be. This is, no doubt, owing to its difficult cultivation, for though seeds may be had at a little cost, and germinate freely, seedlings require great care in after treatment or they will die off before they reach the flowering stage. I have several times raised seedlings and flowered them the same season, but have lost a good many plants at different times. The most critical time is during repotting, the tap root is exceedingly tender and apt to snap off, or the slightest pressure may bruise it. Some recommend sowing seed in the pots the

seedlings are to flower in, but there are disadvantages in this, and I have found it better to sow in small pots and pot on as required, or after they are well established they may be put into large pots, using plenty of drainage, and the pots may be nearly filled with the rough siftings of any good light compost. With care they may be repotted without damaging the roots. Each plant should have a stick, and be tied to prevent any movement which might loosen the stem or snap the root off just below the soil. Once get plants well started they succeed in a cool greenhouse. Watering must be carefully attended to. It is curious that so many Australian plants are so easily damaged by excess of moisture or from drought. This was one of the first plants to receive a first-class certificate from the Royal Horticultural Society, being shown by Messrs. Veitch and Sons in May, 1859, and it well deserves that distinction.—A. HEMSLEY.

Begonia Gloire de Lorraine sporting.—Although this beautiful *Begonia* seems to defy all attempts to fertilise it even when female flowers do occur, we seem likely to get a number of distinct shades of colour from sports, the finest and most distinct of these at present being the Turnford Hall variety. Though not quite a pure white it has a clean pleasing shade, and the slight tinge of pink does not detract from its value. The plant is vigorous, the flowers standing well above the foliage. *Caledonia* has not proved quite so vigorous at present, but it may improve. It flowers most persistently, and produces more female flowers than the other varieties. A curious sport from this occurred on a plant at Mr. H. J. Jones's nursery, Lewisham, one side shoot producing pink flowers of about the same shade as the original *Gloire de Lorraine*, shoots below and above having all white flowers, but the one shoot, though it has continued to flower for fully two months, has kept to the same shade of pink.—A. H.

Foxgloves decaying.—For the last two years I have been troubled at finding so many of my autumn-planted Foxgloves dying from decay at the heart. This year I tried placing the plant on its side with the roots in a small groove and piling up the earth over the roots and the outside leaves. This has been a great success; the plants treated in this way have the hearts protected and the rain water does not settle on them. They have taken root and are growing well, while others planted in the usual way in a flat bed are rotting in the centre.—E. C., *Surrey*. [It should be more generally known that Foxgloves, as well as Mulleins, are excellent wall plants; in such a place they would naturally have the position that "E. C." finds so salutary.—EDS.]

Daphne blagayana at Glasnevin.—Walking through Glasnevin Botanic Gardens a few days ago I was much struck with a bed of this plant, so much so that I felt compelled to let others know what may be done with this beautiful plant. The mass was about 10 feet by 6 feet 10 inches, 12 inches high, every leaf perfect, and forming a dense mass covered with flowers. Sixteen hundred and sixty-three of the lovely snow-white flowers are at the present moment waiting to develop, the fragrance of which must fill the gardens of Glasnevin. Mr. Moore, the genial curator, tells me it originated from one layer taken from his first plant. Each year after flowering the young growths are laid down and stones placed over at their bases, leaving the tops free to curve upwards. This, he believes, is the true secret of growing it. It is growing in the full sun, in pure loam, without any special care or protection whatever, and not in peat.—AMOS PERRY, *Winchmore Hill*.

Salvia Heeri.—This is one of the most useful of greenhouse *Salvias*, and it is surprising that it is not more extensively grown, its sprays of pretty scarlet flowers making a pleasing addition to the attractions of the conservatory during this dull season. It forms a large plant when well grown, attaining a height of 5 feet, but unless its shoots are thinned in the autumn and each staked clear of its neighbour it grows into a dense bush and its true character is not seen. It is usually grown from cuttings rooted late in the spring, and

eventually planted outdoors on a west border. Late in the autumn it should be potted into 10-inch pots and placed in a close house for a few days until it becomes established, after which it may be wintered in a cool vinery. The fact of its late flowering and its requirements being so easily met should ensure more attention for this beautiful *Salvia*.—E. HARRISS.

"Must all be workers."—How much there is in this phrase, taken from Mr. S. T. Wright's report on the Chiswick students to the Council of the Royal Horticultural Society. It matters not whether trained youths be wanted in gardens under a head, or whether to take charge of a place themselves, it is absolutely certain that all must be workers. In gardening there is no room for drones, for dreamers, for mere theorists, or for any that are above actual labour. Gardening is a vocation in which not only labour, but hard and persistent labour, is absolutely essential. No one can be a gardener whose mind is absolutely absorbed in theoretical study. Such a person may become a high class professor or scientific student, but all the brain work in the world cannot accomplish much for gardening without physical work, and a pair of hands guided by sound practical knowledge is by far the most useful. Many of our ablest gardeners have never been scientific students. Had they been how possible that the practical work of these men might have been lost in their scientific studies. It is very difficult to be both a theorist and a practical man. The fact is, gardening as it is found to-day is not only an absorbing vocation but it demands all the gardener's time and attention. What scientific knowledge he can pick up as he goes along he does, and he makes use of such science as is essentially helpful to him in his work; but the gardening practice obtained by severe labour and physical application so much the more enables him to realise what by scientific teaching will be to him helpful and what otherwise. It may seem putting the matter in a narrow light, but whatever may be the gardener's recreations he must be the practical gardener first. It is just this which young men students who propose to become gardeners should aim to be. If gardening is regarded as beneath them, and they prefer science, their gardening knowledge must at the best be superficial.—A. D.

THE ROSE GARDEN.

ROSES FOR COVERING ROOTS OF TREES.

ANY artificial assistance that affords the nearest approach to nature is eagerly sought after at the present day. Thus we find an old tree stump standing on the lawn giving support to a climbing or half-climbing Rose, the shoots bending elegantly over the stump. For profusion of bloom I do not know of a better Rose for this purpose than the Dawson. I have in mind a beautiful mass of this Rose at Kew; in fact, there are several masses in these gardens, but some plants grouped in the way described above against some tree stumps are in June a perfect picture, their beauty still further enhanced by the tangled hedge of Dundee Rambler edging one of the lakes. A lovely Ayrshire Rose (*Virginian Rambler*) would be another most useful Rose for these tree stumps. It is one of the prettiest, although perhaps least known of this interesting group. The Copper Austrian and the Yellow Briar (*R. lutea*), Lady Penzance Sweet Briar, the hybrid of *R. wichuriana* Ruby Queen, the showy Calypso, an excellent variety of *R. alpina* and much larger than Morletti, its semi-double flowers being quite 5 inches across, the delicately tinted *R. macrantha* and *R. moschata nivea*, and the large flowered hybrid *R. sinica* Anemone. All of these and many more could be used for the purpose mentioned. It pays to give such Roses attention at the beginning, that is to say, if the soil be not good make it so by

adding a little good loam and well rotted manure, then leave the Roses to go their own way. Do not have the tree stumps too tall. About 4 feet or 5 feet would be ample. Probably they could be so arranged that one plant is put in the centre and two or three around. Should an autumn effect be desired, Gloire des Rosomanes, R. Pissardii, Grissan Teplitz, and Stanwell Perpetual Scotch would make a delightful group.

PROTECTION FOR TEA ROSE GARDENS.

THE little pamphlet recently issued by the National Rose Society, entitled "How to Grow and Show Tea Roses," is full of useful information about the successful culture of this beautiful flower. Perhaps one of the most suggestive remarks is the one relating to artificial protection where none naturally exists. Screens of netting made of cocoanut fibre and stretched on galvanised wire rope are recommended, a probably excellent protection, but surely somewhat unsightly. Exhibitors do not pay much heed to appearances, some of our noted amateurs' Rose beds being strewn with old umbrellas and the like, used, of course, for shading the blooms. I would rather suggest hedges of Roses as being the most suitable protection to the Tea Rose garden, and what could be more beautiful than a 10-feet hedge or wall of the hybrid Sweet Briars, or some of the many free-growing hardy varieties that happily are now so readily obtainable. It is a well known fact that Tea Roses prefer shelter from the afternoon sun, and high walls are advised for the western side of a Tea Rose garden. One cannot always provide a wall of bricks, but a wall of Roses would afford just that partial shade that the delicate Tea Rose so much enjoys. It must be remembered that our strongest winds come from the west, so that it would be necessary to give the wall of Roses substantial support, such as Oak posts, with stout iron wire stretched to the necessary height. If there be no natural protection to the north some of the strong-growing Roses would also be suitable here. It is useless planting Roses that are not thoroughly hardy. One might be tempted to use the free-growing Tea and Noisette Roses, and doubtless in some districts they would succeed admirably. I have seen pillars of W. A. Richardson planted close together, their growths interwoven in such a way as to make a very nice shelter wall, but this would not do in a bleak position. Reine Olga de Wurtemberg, with its handsome foliage; Climbing Souvenir de Wootton, a splendid climber and as hardy as it is good; Mme. Alfred Carrière, vigorous and beautiful; and Paul's Single White. All of these would be suitable for providing shelter walls, but for genuine rampant vigour none would surpass kinds like Flora, Félicité Perpétue, Dundee Rambler, Aglaja, Euphrosyne, Thalia, Mme. d'Arblay, The Garland, Carmine Pillar, Crimson Rambler, &c. Two interesting forms of R. wichuriana, namely, May Queeo and Ruby Queen, are as vigorous as the preceding kinds. This, then, would provide shelter on the north and west. There remains, however, the east to consider. I am not in favour of high walls or hedges for this aspect, believing that the morning sun is of the utmost importance to the Tea and indeed to all Roses. But we experience very cold winds from that quarter, and they cannot be less objectionable to the Roses than to ourselves. What, then, shall we plant on this eastern side? Rugosa (Japanese) Roses, Scotch Roses, or Austrian Briar Roses would serve the purpose to temper the cold wind to the plants, but one need not stop at these kinds if variety would be preferred. Rosa Andersonii, Moschata nivea, Macrantha, Lucida, The Dawson, how lovely low hedges of these would be. Unlike the Rambler section they will flower although severely pruned, and may be kept low if desired.

PHILOMEL.

NOTES FROM SCOTLAND.

SAXIFRAGES AT EDINBURGH.

FOR many years the Saxifrages have been among the leading features in the collection of alpine in the Edinburgh Royal Botanic Gardens, and the

interest at present being taken in the genus by Professor Bayley Balfour has led to a great improvement being made in the collection. Professor Balfour takes a special interest in the genus, and has devoted much attention to unravelling the mysteries of their nomenclature, although he admits that, so far, the difficulties in the way are not nearly overcome. It is no slight task for one already so fully occupied to undertake, but with the help he hopes to secure, and his own skill in botany, we may hope some day to have a handbook more useful than anything yet existing. It appears to the writer that growers must sacrifice something if they are ever to arrive at some standard of Saxifrage nomenclature, and one thus hopes that Professor Bayley Balfour's idea of a handbook of the Edinburgh collection, with illustrations of the most typical plants, may be carried out. Professor Balfour would be the last to claim that such a work can be perfect, but the annoyance caused to growers of this attractive genus would be minimised were we to have such a handbook, together with a standard collection with which plants could be compared. The confusion is almost intolerable, and one welcomes the prospect of a study of the genus by a competent British botanist with a collection at hand open to the public for comparison.

The Saxifrages have always had much attention at Edinburgh, and the writer, who is an ardent admirer of the genus, was looking forward to an opportunity of looking through the collection under the tutorship of Professor Balfour, who had kindly promised to afford him that pleasure. This was in the course of the late autumn, and a most enjoyable time it was, though he fears that it was a tax upon that of his tutor. A good deal of time was spent among the frames, where many of the plants are kept in pots for purposes of comparison. The collection is rich in all the sections, and one might have spent hours in studying the great or the minute distinctions noticeable in the plants grown together. Another thing in which the collection is specially rich is the forms of the handsome Megasea section. They are grown in frames as a rule, as the flowers and often the foliage suffer so much from spring frosts that this is really necessary to obtain the full beauty of the section, though some are potted for the conservatory, where they are very attractive in spring. These were admirably grown and showed how much they appreciate the shelter of the glass. This treatment brought out the many lovely tints shown on the leaves of some. It would be anticipatory of Professor Balfour's work to tell of his conclusions, but it may be sufficient and pardonable to say that he has practically satisfied himself that the collection of this group may be reduced to two species. Among the prettiest of the Saxifrages, and one of those most highly thought of by the Professor, was *arguta*, referred by the "Index Kewensis" to *punctata*. *Mertensiana* was another which had been found to be one of the best. Two forms of *S. unibrosa* were specially noted as of great merit. These were *Agilops* and the variety *ogilvieana*, a very attractive little plant with dark red stems. Then *S. pedatifida*, the charming cochlearis, the pretty Caucasian and Persian cartalaginea, and Bucklandi, a form of *cuneifolia*, were all taken note of as worth growing. In the *Geum* series another of worth was noted in *serratifolia*, known sometimes as *acanthifolia*, while the perfect health of the true *S. burseriana* major was pleasant to see, and promised abundance of flowers in the early year. *Diapsioides* and *primulina* were doing well, and quite a host of others showed which were and which were not to be easily grown.

An adjournment to the rock garden gave another illustration of the difficulty of identifying the Saxifrages, even in a growing state and planted out. An examination of the many mounds showed what reveals itself to those who study the genus, how much the same plant varies from some slight difference of soil, exposure, or quantity of moisture. In many cases a rosette taken from one part of a "pocket" looked quite distinct from a portion of the same plant from another part. This was not to be seen in the size of the foliage alone, but also in the different degree of pilose or glandular character of the leaves. To the casual eye the

tufts would have appeared distinct, though they were in reality of the same species.

Seldom does one see the various sections of Saxifrages grown so well as on the rock garden at Edinburgh, and their beauty is all the better realised because the plants are quite large. When one sees such as *Salomoni*, *burseriana*, or *apiculata* in such masses one understands how needful it is that the Saxifrages should not be planted in the mere tufts so often got from nurseries, but in masses, among the stones as in this northern garden. If one might venture to make a remark of criticism it is that some do not show to advantage against the white quartz, of which some of the rockwork is composed.

S. ARNOTT.

THE FRUIT GARDEN.

APPLE CULTURE.

I SHOULD be very much obliged if you would give me the following information. I want to know how soon I could get sufficient fruit from Apple trees to make a profit without injuring the trees by over-cropping.

I planted the following nine varieties last October, putting in two year old plants (bush): Cox's Orange Pippin, Lord Suffield, Bismarck, Lane's Prince Albert, Lord Grosvenor, Newtown Wonder, Worcester Pearmain, Irish Peach, and Early Rivers. How soon would it be safe to let them bear one bushel of fruit each? I presume some would take much longer than others. Also, supposing I planted Lord Suffield alternately with other kinds with the intention of getting fruit from them as soon as possible and grubbing up the Lord Suffields when worn out or the others had come into good bearing, how much fruit might I expect from the Lord Suffields the first, second, and third years respectively? Is there any other variety which would be profitable for market and would come into bearing quicker?

Southsea.

A. P.

[In reply to the above interesting enquiry, we give the answer prominence, believing that our correspondent has given expression to a desire for information that is shared by many more of our readers. A vein of thought runs through this communication pointing to a desire to grow Apples both for pleasure and profit. This is a practical and commendable way of looking at the subject, and a point of view from which those of us who advocate the more general cultivation of hardy fruits not only on a large scale by the grower for market but also every householder in rural Britain regard the question. It is by this means that the usefulness or failure of the movement on anything like an important scale must be demonstrated, as Apples are not grown to be looked at, but as food and as a means of livelihood to those who engage in the industry, or as an important adjunct to the food supply of the amateur's household. Until it is clearly proved that Apples can be grown at a good profit it is hopeless to expect the movement to assume those proportions which its importance justly entitles it to.

Unfortunately, Apple trees are not like Jonah's Gourd—they do not rush to maturity and fruitfulness in a day, but must have time to develop root and branch and build up a frame capable of carrying heavy crops of first quality fruit without subsequent injury to their constitutions. It would be misleading to say that two year old trees the first or second year after planting would produce heavy and remunerative crops. Some varieties are far more likely to bear fruit quickly after planting than others, but it is contrary to sound and good practice to allow them to carry more than a dozen or so for the first two years, for the reason that if you do you will assuredly cripple the growth of the tree, and it will take years to recover, if ever it does. Rather be satisfied with little, if any, fruit until the third year, when, if the proper varieties have been planted in well-trenched and prepared soil, you will then have strong, healthy trees, and if the season is favourable an abundant crop of good quality fruit, with a prospect of

permanent healthy growth and satisfactory crops. This will, we think, dispose of "A. P.'s" first question, and also the second more or less.

As he correctly assumes, some varieties come into bearing much earlier than others, and in this respect the new Apple recently sent out by Mr. Buoyard, Allington Pippin, is perhaps the most fruitful in a young state of any; Lane's Prince Albert is another, so is Lord Derby and Bismarck. These, no doubt, would carry a good crop according to their size the first and second year, but it would be at the expense of future healthy growth and development. All the varieties mentioned by our correspondent are good, and would in due time give satisfactory returns. As regards his third question, of planting Lord Suffield alternately with other varieties for the purpose of securing early returns, and grubbing them up when they obstructed the development of the more permanent trees, this could be done, and the

Wellington (kitchen), James Grieve (table or dessert), Mr. Gladstone (table or dessert), and Winter Quarrenden (table or dessert).—Eds.]

WINTER PEAR PASSE COLMAR.

I do not think your remarks *re* the above Pear were any too strong in its favour. My experience of it is that no other Pear surpasses it in flavour at the season it is in use, viz., from Christmas to the end of January, provided it is grown in a suitable aspect and soil, on the Quince stock, and as a cordon. It is a most delicious honey-like fruit. It has also other qualities to recommend it. It is a prodigious cropper, a really good grower, and, so far as my experience of it goes, not subject to fungus disease or cracking as is the case with many other Pears. I am unable to say how it behaves as a standard, pyramid, or bush, but as a cordon it is first-rate on a south wall here (Cirencester). Your illustration is most faithful, so I need not describe size, &c. T. ARNOLD.

LATE KEEPING APPLES.

APPLE trees ought to have been planted long ago, but as many amateurs have not reached sinless perfection and are addicted to procrastination, I do not doubt but that many are intending to plant in March. I therefore wish to emphasise an opinion I expressed four years ago, that New Northern Greening, which many nurserymen are getting into the habit of substituting (in their lists, at least) for the Old Northern Greening, is worthless as a late keeper. I have now had four years' experience of this newer variety, and I therefore speak with confidence. It has never kept with me beyond the middle of January; this year it began to spot about Christmas time. Now contrast the old variety under precisely similar treatment; it often lasts with me into August. Last year I used the end of the crop very late in July, and I shall not begin to use my present store till well into March. The "New" is a nicer Apple to look at, and is not at all a bad eating Apple in December, but the extreme importance of a very late keeper, when American Apples have ceased to come in, places the "Old," along with Stanwell Souring, at the top of the list of valuable selling kinds. A better Apple than the New Northern Greening, in my opinion, is Clarke's Seedling, very beautiful in appearance, and keeping a month or six weeks later. D. K.

County Cavan, Ireland (a cold, wet climate).

MOSCHOSMA RIPARIUM

DURING recent years the indoor garden has been enriched by the introduction of several Labiates, all of which are of considerable decorative worth. The *Moschosma* under notice is one of them, and a plant which should in the near future be found in every garden. It is a South African perennial, much like, when out of flower, a green-leaved *Coleus* or *Salvia*. The leaves are about 2 inches long and roundly ovate, the margins being deeply toothed. The flowers are small and white, with purple anthers, and are borne in large, elegant, terminal panicles often from 2 feet or 3 feet in length. The flowering period commences early in December, and continues until the middle of February. Although naturally a perennial, like the *Salvias*, it is better treated as an annual, growing it each year from cuttings. To do this, directly the flowers are over the plants should be cut back and placed in a warm, moist house to

start them into growth. When the young shoots are 3 inches long they are ready for removal and insertion as cuttings. Both at this stage and at future stages of growth similar treatment to that accorded *Salvia splendens* will suit admirably. For conservatory decoration in midwinter it will be found an admirable plant, and when grouped with other plants it is particularly effective. In the greenhouse at Kew a very pretty group is composed of this plant intermixed with plants of *Pyrus floribunda* smothered with pretty pink blossoms. A delightful group of it was shown at a Royal Horticultural Society's meeting recently by Messrs. J. Veitch and Sons, Chelsea. W. DALLINORE.

BOOKS.

The Coccidæ of the British Isles.*

—There is a family of insects commonly called "scale insects," but by scientists "Coccidæ," which, though well known, and indeed often too well known to horticulturists, particularly to those who have to do with plants grown under glass, have until comparatively recently hardly been noticed by entomologists, although their forms and life histories are so unlike those of other insects and exhibit such interesting peculiarities, for example, the extraordinary difference between the males and females, that one would have thought that long ago they would have been carefully studied. The literature on this subject, however, is somewhat scanty in consequence. Several papers on these insects have from time to time appeared in our entomological periodicals, and in those of our Colonies, and in America; but hitherto the only work which treated of these pests generally was one by a French entomologist, V. Signoret. It was published in a French scientific periodical, and a few copies were issued separately, and it is a difficult book to obtain. It contains descriptions of all the known species up to 1876, and several most excellent plates. No doubt this difficulty in obtaining information about these insects prevented many persons who would otherwise have done so from collecting them. The Ray Society, whose publications are always of the highest value, have just issued the first volume of a work on this family by Mr. R. Newstead, who has for several years devoted much attention to this group, in which the various species which have been found living in this country are described, so that many species which are only found in greenhouses are included, as well as those which are indigenous. To use the words of the author in his preface: "It has been thought advisable to make this monograph representative of all the species found living in this country, so that the work may not only appeal to the naturalist, but to all those who are interested in horticultural pursuits. With this object in view instructions are given on the methods of prevention and remedies, to which have been added from foreign sources the most approved modern systems of combating these insects on a larger scale than is usually employed in this country."

The introduction deals with the life-history of the Coccidæ, their metamorphoses, natural products—which include cochineal, lac, and a kind of wax—their distribution, natural enemies, the best means of collecting and preserving them in collections, the best methods of prevention, and remedies, their characters, and classification. Scale insects may be roughly divided into three divisions—those in which the insect when in its adult stage is covered by a scale formed of its previously-cast skins, and a secretion from its body, beneath which the insect lives; those in which the actual skin of the insect hardens and becomes more globose, so that it assumes somewhat the appearance of a small tortoise; and those which, like the mealy bugs, have no scale-like covering. The volume now published only includes

* "Monograph of the Coccidæ of the British Isles," by R. Newstead. Published by the Ray Society.



THE NEW MOSCHOSMA RIPARIUM.

(The flowers are almost white with purple anthers.)

idea is not a bad one, provided that after they were grubbed up the ground in which they grew is enriched by a good dressing of manure. With reference to the returns the Lord Suffield would give the first, second, and third year, it is impossible to say, so much depending on the strength of the trees, the condition of the ground, and whether the seasons were favourable or otherwise. Taking these for granted, it is safe to say that "A. P." would be rewarded by a moderate and even a generous return for his outlay and labour. Very much depends on the healthiness and strength of the young trees and whether the ground has been well trenched and manured previous to planting.

For a limited collection the varieties selected are good, and, in addition to those mentioned above, "A. P." must add the following as being good bearers and excellent for market: Duchess of Oldenburg (kitchen), Golden Spire (kitchen, table or dessert), Christmas Pearmain (table or dessert),

those which are included in the first division, of which some thirty-eight species are described and figured. The plates are mostly coloured lithographs, and are exceedingly good, the insects being shown of their natural size on their food plants, as well as magnified, often with dissections, some of the plates showing simply in outline the last joint of the body of the female, in which are certain important characters that distinguish one species from another. The descriptions are very full, but decidedly technical, and for the most part would not be understood by those who were not accustomed to entomological phraseology. However, it would be almost impossible to have given the descriptions in popular language. The difference between the sexes before alluded to in these insects is very extraordinary, the adult females in most cases are immovable, inanimate-looking creatures, very unlike other insects in every outward appearance, while the males are active two-winged little flies which anyone would at once recognise as insects; in some species the males are very common, in others they are very seldom met with, and in some they are unknown. The most interesting part of this work to horticulturists is no doubt the chapter on "Methods of Prevention and Remedies." The author goes very fully into the subject, but does not suggest anything but what is well known in the way of insecticides. Fumigating with hydrocyanic acid gas for the wholesale destruction of scale is strongly recommended, but it can only be used with specially-constructed fumigation chambers or some other form of air-tight covering over the plants. Kerosine emulsion of a strength suited to the plant operated on is mentioned as one of the best insecticides. This volume will be consulted by those who are to some extent interested in entomology as well as horticulture with much pleasure and profit, and to all entomologists who wish to study this group of insects it is almost indispensable. We look forward to the next volume with some impatience.

WORKERS AMONGST THE FLOWERS.

WILLIAM CRUMP, V.M.H.

THE subject of our illustration is a gardener who thoroughly loves his profession, and who by his perseverance and indomitable energy has raised himself to the front rank of horticulturists.

Mr. Crump was born in Shropshire in the year 1843. Throughout his school days it appears he spent most of his playtime hours amongst flowers and vegetables. After receiving a fairly good education for that period in the National school, various occupations were offered and strongly advised, but none was liked so well as gardening. For a considerable time every possible obstacle was placed in his way, but his parents ultimately gave way, and after a course of probation Mr. Crump was duly apprenticed in a moderately well managed garden. His first responsible charge was that of foreman of the glass department at Powis Castle, Welshpool, under the late Mr. G. Brown, a famous Scotch gardener of the old school. There was a good home nursery there at that time, also some splendid specimens and collections of choice coniferae. The cultivation of Pine-apples was then a feature, and so were the terraces of herbaceous flowers. Mr. Crump then took an apparently downward step by accepting the appointment of general foreman under the late

Mr. Wildsmith at Heckfield Place, Hants, a noted place from which so many good gardeners have proceeded and now hold good appointments. After staying here three years or so, he became head gardener to Mr. F. Harris, Lamberhurst, Kent, and from there went to Blenheim Palace, Woodstock.

In due course Mr. Crump exhibited successfully at the Royal Horticultural Society, South Kensington, Crystal Palace, Royal Botanic, Manchester, Oxford, and other shows, silver cups and gold medals being awarded, including the blue riband at the International Potato show, Crystal Palace, and what was the most appreciated of all awards was Messrs. Webber's £10 10s. prize for the best packed three boxes of fruit delivered by the railway companies at South Kensington intact, in the way of ordinary parcels, consigned and signed for as customary. This was twice competed for in succession, a first prize won each time against



MR. W. CRUMP, V.M.H.

such competitors as Mr. Coleman of Eastnor, and other first-class fruit growers and fruit packers.

Blenheim Orange Melon, which still holds its own as one of the best scarlet flesh Melons, was raised by Mr. Crump, and exhibited successfully in open competition with upwards of thirty others, and obtained a first-class certificate of the Royal Horticultural Society the same year. In the year 1883 Mr. Crump removed to Madresfield Court, a place noted for its excellent soil for fruit growing. Large numbers of hardy fruit trees are worked up annually for tenants and distributed gratuitously. Many experiments in grafting and double grafting with a view to the fusing of new blood and the improvement of existing choice varieties have been made in the hope that the subtle influences of stock and scion would produce something worthy of the experiments.

Partial success at times rewarded Mr. Crump's efforts, but further trials proved disappointing, and were abandoned. There is an interesting experimental plot, where some 250 varieties of Apples, eighty of Pears, and fifty of Plums, all bush trees, are on trial; and when any new variety is found to suit the locality a stock is worked up. There are also a good many seedlings and local varieties added to the above Apples, a large number being annually discarded. Visitors to Madresfield Court gardens will have observed the encouragement given by their owner, and the additional improvements carried out from time to time with the object of making the gardens thoroughly interesting, especially in the naturalising of hardy shrubs and flowers. Mr. Crump has also been partly instrumental in working up for the county an auxiliary of the Gardeners' Royal Benevolent Institution, and through the generosity of his master, Earl Beauchamp, allowing the gardens to be open to the public once a year several hundred pounds have been added to that excellent institution. One of the Victoria Medals of Honour was awarded to Mr. Crump in 1897.

CONTINENTAL NOTES.

THE following novelties appear in *Gartenflora*, February 1, 1902:—

New Pelargoniums.—A coloured plate illustrates five very fine forms raised by Max Bürger Halberstadt, one of which, *Die Braut* (The Bride), is an exceedingly fine pure white semi-double form, with large, frilly petals and a compact, handsome truss. The others, though very fine, are on more familiar lines of scarlet and rose-pink, more or less flamed with scarlet.

A Cultural Report of the Union for the Encouragement of Horticulture (Verein zur Beförderung des Gartenbanes) in Berlin gives an impartial report regarding numerous flowering plants and vegetables tested in their gardens, giving full descriptions—in many cases correcting those of the raisers—and opinions as to success or failure (a practical step worthy of adoption on this side). Amongst these is mentioned

Petunia hybr. grand. comp. fl.-pl. rosea perfecta (!!!), which is highly recommended with the remark that the name is longer than the plant is high. It is, at any rate, a charming example of nomenclature.

Comet Asters.—Ernst Benary, Erfurt, describes and illustrates some novelties of this strain, amongst them *Kaiserin Friedrich*, a dwarf grower, with very

large flowers like reflexed *Chrysanthemums* as much as 6 inches in diameter, pure white; and

Darwin Asters (Lady Asters), light blue, pure white, innumerable narrow petals curving outwards, forming neat, almost hemispherical flowers of a huge double Daisy type.

Antirrhinum majus grandiflorum Queen Victoria.—A very bold, broad-tipped, pure white form; very long stalks to individual flowers, hence suitable for cutting.

Celosia spicata (argentea linearis).—This appears to be a truly handsome novelty introduced from the East Indies. It is an annual, forming tall, upright, pyramidal plants about 2½ feet high, bearing a great number of awnlike spikes of bloom, rosy red, which turn to a silvery white, the spikes thus becoming beautifully parti-coloured; suitable for pots or the open.

Phlox Drummondii cuspidata fol. albo-marginatis (Benary).—A beautiful variety with long, crisped, and caudate petals, sometimes fimbriate,

the foliage deeply margined with white. It comes true from seed, and appears to be well worthy of culture by the illustration given.

Cypripedium insigne var. *mooreanum* × *spicerianum giganteum* (C. Ansonge Klein Flokbeck).—The *Gartenwelt* figures and describes this. The upper sepal is remarkably broad, light green at the base, the rest being pure white, thickly spotted with rosy lilac. The petals are brownish yellow, spotted with brown, and the labellum shining light chestnut.

Wallflowers for forcing.—"Möller's Deutsche Gärtner Zeitung" illustrates a new single variety, Goliath, but it is a remarkably dwarf, stocky, and free-flowering form, which, if forcing be started at the end of January, gives good flowering plants within a month. Sowing is effected at the end of March or beginning of April, planting out in good open soil in May, care being taken not to over-water. In September they are potted up in a good rich loamy compost and placed in dry frames, damp being prejudicial. Kept dry and lightly covered they will also do in the open. Such plants treated as above rapidly form good plants as described.

TREES AND SHRUBS.

WITCH HAZELS (HAMAMELIS),

FOR considerably more than a century the only *Hamamelis* grown in this country was *H. virginica*, a native of North America. It usually forms a somewhat open bush, with small yellowish, starry flowers plentifully borne towards the end of autumn and in early winter. This can only be considered as an interesting but by no means highly ornamental shrub, while the Japanese species stand out conspicuously from all other trees or shrubs in our gardens. Even in January, should the weather be mild, the still leafless branches are thickly studded with flowers, which, in the case of *H. arborea*, a writer in a recent number of THE GARDEN aptly describes as tassels of twisted gold. The Japanese forms of Witch Hazels consist of the following:—

Hamamelis arborea.—This is the largest grower of the family, and specimens may be met with that have already attained the dimensions of small trees. Its usual habit is to produce a decided leading shoot, while numerous side branches are pushed out more or less irregularly. The flowers, which are borne in such profusion that every shoot is wreathed, are of a clear orange-yellow tint. Given favourable weather they remain in perfection a long time, while, when specimens are large enough (but at present they are too precious), the flowering sprays form a delightful feature indoors if arranged in a vase with a few pieces of evergreen foliage.

H. japonica.—This is dwarfier than the preceding, and, allowed to assume its natural character, forms an open bush, all the branches of which have an upward tendency. The flowers are somewhat lighter in colour than those of *H. arborea*, and, though both are beautiful, this last-named is the better of the two.

H. arborea zuccariniana.—A counterpart of *H. japonica*, except in the colour of the flowers, which is of a clear citron-yellow, and thus forms a pleasing variety. When in conjunction with the others the flowers of this seen in the sunshine of a winter's day serve as a foil to *H. arborea*. The above names are in general use in many nurseries, and also at Kew, and though differences of opinion prevail among botanical authorities as

to the correct nomenclature of the members of this genus, the *Hamamelis* described are, from a garden point of view, quite distinct and beautiful.

H. mollis.—The latest addition to the genus is this species, which is a native of Western China, where it was first discovered by Dr. Henry, to whom we are indebted for Lilium Henryi, and numerous other good things. This new-comer, of which at present only small plants are in cultivation, promises to attain the dimensions of a good-sized shrub. It is very distinct in foliage from any of the others, the leaves being much larger than in the Japanese kinds, while they are clothed on the under surface with a soft, felt-like material, from whence the specific name of *mollis* is derived. The flowers are clear yellow, with slightly wider and much less undulated segments than those of *H. arborea*. Though at present little known, its future is very promising.

The requirements of the Witch Hazels are not exacting, though they succeed best in a fairly good well-drained loam, that is, however, not dried up at any time. They are quite hardy, the principal consideration in planting being to bear in mind that the flowers are seen to the best advantage against a dark background, but, if possible, they should be so situated as to allow of close inspection, as this will reveal additional charms to those that can be detected at a distance.

All of the above can be justly regarded as select shrubs, for they command a good price in nurseries. This fact is principally to be accounted for by their slow rate of propagation and growth during the earlier stages. Cuttings strike root only with difficulty, and the means of increase usually adopted is to graft the better flowering kinds on to seedlings of the American *Hamamelis virginica*, which, though so free-flowering, seldom produces a corresponding quantity of good seeds.—T.

A DAY IN A JAMAICA GARDEN.

TEA, breakfast, dinner. This, in Jamaica, is the order which corresponds to the English breakfast, luncheon, dinner. Obadiah, the boy who cooks, and I have a difference of opinion about the morning tea. He thinks seven is a good time. I maintain that by seven it should be all over. The sun should not be up when I sit down, is my view. He thinks

it does not matter. Sometimes I go out watering before tea, but not now, for these are the months that do our watering for us. It is one of the last days of November, Obadiah not over zealous as usual, and I have to get up after my first piece of toast to register the seven o'clock reading of the thermometer. It is 72°. Tea over, the first thing is to get flowers for the house. One fresh glass a day is the rule for the little hall, in Jamaica parlance, which does double duty as a sitting-room and dining-room. If yesterday's glass looks well, and it generally does, for Roses and Carnations are chiefly drawn upon for house use, it is left, only third days are never allowed. This morning a visit to the Rose garden supplies me with what is wanted at once. There jump to my eye some upright sprays of the shell-like Henry Bennett, which, cut long with sufficiency of good leaves upon each spray, arrange themselves in the hand to my satisfaction, a sure sign that they will be acceptable in their glass.

In the Rose garden are some Figs. The autumn crop is over, and one of the trees is well covered with young fruit which will ripen in March. Spring Figs are best because the season is dry. The October rains often spoil the autumn ones. The sweetness seems to be washed out of them, while sun fills them with lusciousness.

The Marica is flowering to-day. There are clumps of it on the way up to the house, purple-blue and sweet, five, six, and even seven flowers to each spike, and on the old plants many spikes. I put in the Roses and go in quest of the fingerful of Violets which is the daily portion of the bedroom. These, for convenience of watering, for they are thirsty things, grow by the big tank, whose long edge is the place for cuttings. There are only a few there now. Almost everything has been put out, and there is but a remnant of old stock, a few thrifty Lavenders, of which there has been considerable planting this year, some Carnations, and Begonias. These will soon find their places and the cutting bed will be remade. It must be done at once, for December to March is the best striking time.

At one end of the tank is a bed of Freesias looking well, leaves a foot high and standing sturdily. So often they are weak and fall limply down. They want plenty of water when growing, and that is why they are here. They do not have



A QUIET HOME IN THE PORT ROYAL MOUNTAINS, JAMAICA.



MARICA IN A JAMAICA WILD GARDEN.

to be taken up. Our dry summers give them the needful rest. A shelving bank below is the only place that grows Irises of the Florentine type. It combines the necessary conditions, being well drained, inclining to dryness, and partially shaded. The last condition may be thought unnecessary, but we are in the tropics.

Just as I get in with the Violets, Ledhu, the gardener, calls me to look at some soil. When he came as usual to the window at tea time for orders I told him to find me some stiff clay, and here it is. Yesterday, in the course of a twenty mile walk across the mountains, I happened on two ground Orchids of a kind new to me. Digging them up with an improvised instrument of Bamboo showed the soil they grew in, and this clay which Ledhu brings seems a fair match. So we carry it down to the shady corner most like its native habitat. This is a favourite place. A Grevillea, repeatedly pollarded to keep it low and branching, for it is a quick thing to run up, is the chief shade giver. From it stretches an irregular structure of strong uprights and Bamboo framework, supporting two Roses, Rêve d'Or on one side making in combination with another climber perpetual heavy shade, and on the other Cloth of Gold, whose more open growth allows the sunlight to chequer through. The Rêve d'Or's companion is called by American florists *Coccinea indica*, a name almost obviously inaccurate. It has Ivy leaves, Bryony-like tendrils, and white flowers, which should be followed by scarlet fruits, but here they never set. Poinsettias further increase the shade on the side of the morning sun. The place is known as "Begonia corner," from the Rexes and other foliage kinds which shun bright light and scorching heat. The most beautiful, if it is possible to discriminate between members of this perfect family, is *B. olbia*, which varies in every light, green and lustrous brown one way, blazing red when looked at against the sun. The reddened under side of the leaves of *B. conchifolia* give something of the same effect, only it lacks the variety of colouring above, the foliage being leathery and more uniform in surface tint. *B. metallica* finds a place here too, and several others. The ground carpet is of *Saxifraga sarmentosa*, Mother of Thousands as we call it, with *Episcias* of two kinds, *E. fulgida* rich in leaf and splendid with crimson-red flowers, and another species whose leaves are less well marked, and which is more chary of producing its tender blossoms of

palest violet. The two groups are kept distinct, and are separated by foliage plants which repeat green and white in endless variety. Flat *Fittonia* is there netted and veined, easily increasing; *Aglaonema picta*, cherry-berried at times, and another species of *Aglaonema* striped with white. Selaginellas are prominent, a wild one from the hills growing low in thick mats very much like *S. helvetica*, but probably not it, *S. Martensi* standing higher in graceful growths of green coral, while *S. Wildenovi* flashes its peacock tints as it climbs among the bare Rose branches and clothes them anew with the leafage they have lost for want of sun. There is a doubt whether this is the right name. An American horticulturist of the highest repute amends it to *Lycopodium caesium arboreum*. It must be caught with just the right slant of light, and in the proper position is as strangely beautiful as Labrador spar. With it twines *Cissus discolor*. These form a bower sacred to a long-tailed humming bird, who sits here with his little wife for short intervals between dashing excursions among the flowers. *Torenia* enjoys this well watered spot and is pleasant to look upon with its porcelain blue, and *Sinningia major* in these winter months hangs out its pearly flowers much like *Campanula barbata* in shape and exactly like it in colour.

But we must not too long delay at this fascinating corner. More general impressions must be noted. For glory of colour the garden is at its richest in November and December. The Poinsettias are then most heavily laden with their drooping whorls of flame, and the gigantic *Tithonia diversifolia*, that peerless Sunflower of deeply incised leaves and long scented blossom, towers up in waving rods of yellow.

Yet must not the gardener give himself up solely to the pleasure of contemplation. He must go round critically examining, reviewing what has been lately planted to catch the settling in of the showery days, noting gaps to be filled, projecting changes and improvements. "Wall and Water Gardens" has been a help of late, and suggested the planting of Indian Pinks in hastily improvised walls where were formerly somewhat meaningless slopes. They thrive well and in various shades of salmon from a packet of Salmon Queen, make fair substitutes for the kinds which defy English frosts and heats, but are unwilling to bear the fiercer blaze of southern sun.

Hard by one of these new walls, which is so

little perpendicular that it is rather a wall laid flat, is an imposing group of *Costus speciosus*. The flowers are just over after going on for some months and the outflowered thyrsus stands erect, claret-red, at the end of each rod, and will be ornamental for some weeks more. Peculiar and beautiful is the arrangement of leaves upon the rods, and besides appealing to the eye they gratify the sense of touch, cool and shiny above, wonderfully soft below, with downiness so fine as to be almost invisible. While stroking one of them I look upon my last remaining plant of *Plumbago rosea*, surely unmatched in tint except by one of our bulbs, a species of *Lycoris*. The most difficult of plants is *Plumbago rosea*, and one knows not why. Deep-rooted it cannot mind the sun, in which its bigger brother *P. capensis* so revels that it has constantly to be restrained with fierce onslaught of the cutlass.

A group of double French Marigolds gives me great pleasure. It is of stature low enough to withstand wind and rain yet not unduly dwarfed, colour of a Horse Chestnut fresh from its shell, gold-laced at the edges of its puckered petals and glorious exceedingly with central fluffy boss of gold. Why, when common things are so infinitely beautiful, do we spend time over rarer? Rarity is so often due to the fact that the plant does not suit

its environment. If you value your peace of mind, and do not find pleasure merely in the surmounting of difficulties, do away with it and grow something which does suit, which looks and feels at home and is always well and thriving. After which good piece of advice I turn regretfully to my peccant *Plumbago* and promise it some help to try and induce it to stay with me. Yet in a general way I keep to my opinion, and when anybody shows me a rare plant and says it is very difficult, as I look upon the poor struggling thing the comment of the surly doctor on the performance of the young lady at the pianoforte comes to my mind. "It is very difficult," said the fond mother. "Would God it had been impossible," rejoined the bear. Except that one *Plumbago*, in my garden there is no rare plant, not one that struggles and strives. Such are sent to the rubbish heap. Many of my best doers are rare enough at home, some, like the Mountain Pride (*Spathelia simplex*) probably unknown. But all are common here. They riot and seed themselves.

A post with Honeysuckle upon it came down yesterday with a gust of wind. We have just been making it good with one of bully (bullet) tree which will last my time and somebody else's. The first weak one was the result of that stupid but sometimes almost unavoidable thing a scratch job.

As we pass the rill we see that water is not at its full flow. It has been getting less for some days past and we know what is the matter, and this seems a fitting time to attend to it. So I take Headlam, who carries a pickaxe, crowbar, and the inevitable cutlass, and we follow the water up past the bathing-place where we come to the seat of mischief. The rill is led off from the parent stream by a board gutter as it is termed, a square-sided trough. The water being full of lime, which it deposits as it runs, gradually fills the gutter with "canker," and this we have to remove. It is a lovely spot in the heart of the bush, trees overhead and below Ferns and Orchids. The commonest of these is a *Habenaria* not unlike the wild English Garlic, but growing less thickly, showing brown earth strewn with dead leaves between. On rocks and mouldering tree stumps are clumps of the fine *Oncidium luridum*. The sun only enters in quivering spots and it is deliciously cool. There are two sections of board gutter. At the top where we begin work the wooden trough has disappeared, and the little dip over which it was originally

carried is now bestridden by a canker gutter strong as cement. The deposit of sinter has filled it to the top in several places and a channel has to be cut out with the pickaxe. Headlam stands on it, "chipping it," as he says, with strong strokes, widening and deepening to the necessary size, which, as we have a copious supply of water, is less than that of the original gutter, ensuring stability.

As Headlam works I wander up the stream reproaching myself for wasted opportunities. Here is just an English copse by the banks of a rocky torrent and I have done nothing with it, not made so much as a rough path to save me from Cockspur, the thorny climber, one branch of which has caught me by the legs while another brushes my face. And the ground is lovely, steeply sloping to the rushing stream, still more steeply rising on the further side. Here is a great clump of *Phaius grandifolius* perfectly placed by nature near a grey rock, and again I find myself admiring the very earth itself with its right proportion of fallen leaves decayed and decaying. There is no rough grass or rubbish, but brown soil, a few *Habenarias*, this *Phaius* which will be out next month, and *Ferns* plenty but not too thick, more than I can name though I know a few. There is *Adiantum tenerum* always my favourite, *Blechnum occidentale* whose young fronds are brown-pink; on the rocks and tree-stubs *Polypodium incanum* rather smaller than our home one, and on the ground *Anemia adiantifolia* which is just French Fern bearing twin flowers. Gold and Silver Ferns are very common in the district, but I do not see them here. They like to come down to opener places, edges of paths and so on. Nor do I see the splendid *Davallia dissecta* which has almost taken possession of the fernery. Several unknowns reproach me for ignorance. What is apparently a Hart's-tongue is one. It is called Cow-tongue here, and, unlikely as it appears, I have been told, I think, that it is a *Polypody*. That is perhaps a *Nephrodium*, but do not take my word for it, and there is something just like Holly Fern.

About every two years I make a pilgrimage this way to a glorious tree, a wild Tamarind, *Board-tamarind* they usually call it for its handsome wood (*Pithecolobium filicifolium*), great in girth, noble in height, magnificently towering over the puny undergrowth of coppice. Yes, the next or nearly next job, for quite the next is a playing

with water down by the house, the result of the "chipping" now going on which will give us more water than we have ever had before. The next job but one, I say, will be to make a path to the Tamarind and to free it from the unmannerly pushing of some of its low-born neighbours. A Sweetwood (*Nectandra exaltata*) has had the audacity to throw itself up forty feet into its very arms. The axe shall be laid to its trunk.

(To be continued.)

THE FLOWER GARDEN.

WALL GARDENING AT THE ENGLISH LAKES.

IT has often been my pleasure during the last twenty years to visit our English lakes during the midwinter months. Those who have only visited the Lake country in midsummer or autumn can have but a faint idea of their beauty in winter or early spring. During the winter months the walls and hedgerows and even the rocks are covered with Mosses, Lichens, and Ferns, which vary in colour from deepest green of the Mosses, many of which are in fruit and covered with little brown capsules, to the many colours of the Lichen, now at their best, hanging and covering the rock with golden yellow, lovely grey, and emerald green. Nothing is naked or bare.

Visitors to our English Lake country will often have been charmed with the rich vegetation which garnishes the walls of this lovely district. In early spring, and while the Mosses are still in their full beauty, they are covered with various spring flowering plants, chiefly annuals, such as *Saxifraga tridactylites*, *Draba verna*, *Arenaria serpyllifolia*, *Poa rigida*, *Aira præcox*, and *Cardamine hirsuta*, plants which favour a dry sunny position. On the walls which are built abutting upon the mountain sides we have still another class of plant of a more perennial character, such as the common small-leaved Ivy, which takes on various shades of colouring according to position and aspect. If much exposed to the sun it assumes bright colouring in autumn. On these walls the soil, even in the height of summer, is more or less damp

and filled with moisture, sustaining a much better and greater variety of plant life. Here also we find *Geranium robertianum*, *Thymus Serpyllum*, *Solidago Virgaurea*, *Digitalis purpurea* and *Hieraciums* of various species, *Sedum anglicum*, *S. acre*, *Glechoma hederacea*, *Veronica officinalis*, and *V. Chamedrys*, perhaps the prettiest of all our British *Veronicas* for wall culture. The foot of the walls is generally filled with stronger growing plants, such as *Athyrium Filix-femina*, *Lastrea Filix-mas*, *Lastrea dilatata*, and in the mountainous district *Lastrea montana* and *Allosorus crispus*. In fact, wall gardening in the Lake country is a very easy matter, as Nature here is ever ready with a helping hand. When this is supplemented by the aid of the skilful gardener wall gardening becomes a pleasure indeed.

In no part of the country have I seen such a splendid piece of wall gardening as is to be found at Church Style, Grasmere. Here Mr. Robert Hayes has for years been aiding Nature, working hand in hand with the "grand old nurse;" together they have done wonders. Indeed, like the village church, Mr. Hayes's wall garden is one of the attractions of the quiet and classic village of Grasmere. The last time I was there—last October—I counted upward of 100 species of plants growing chiefly from the top of the wall. Some of the best plants included at least twenty species of the Saxifrages, among which must be mentioned *Saxifraga longifolia*, *S. Cotyledon*, and a number of the aizoon section, all of which are admirably adapted for such work. Some large clumps of the *Megasea* group looked extremely beautiful, the hot dry summer having already given a splendid crimson lustre to the big glossy leaves. Saxifrages of the mossy section were in plenty, but had suffered somewhat from the prolonged dry season. Now they are looking at their best, and give a most beautiful effect as they overrun and overhang the wall.

I was a little surprised to see some nice plants of *Gnaphalium Leontopodium* quite at home, and on the north side of the wall were a few of *Ramondia*, which does well in the Lake country provided it can secure a place in a suitable position facing north. *Aubrietia deltoidea* was in all its various forms, along with alpine *Phloxes* such as *P. G. F. Wilson*, *P. Nelsoni*, *P. atropurpurea* and *grandiflora*, *Sedums*, *Cerastiums*, *Dianthus cæsius*, *fimbriatus* and *Caryophyllus*; *Alyssum argenteum*, and *A. saxatilis*; *Saponaria ocyroides*, *Sempervivum*, *Thymus Serpyllum* and *T. lanuginosus*, with the white and crimson varieties; *Drabas* in several species; *Onosma tauricum*, a fine plant evidently at home; *Campanulas garganica*, *hirsuta*, *rotundifolia alba*, *pusilla*, *Hostii*, *isophylla alba*; *Erodiums*, *Iberis*, *Veronicas*, *Cistus*, *Carnations*, and *Pinks*; indeed, the list could be considerably extended, but the plants named will suffice to show what can be done under such favourable conditions as are not always to be found elsewhere. But wherever the walls are naturally covered with vegetation there will be found the suitable conditions for wall gardening.

W. H. STANSFIELD.

Southport.

TUBEROUS BEGONIA CRISTATA BICOLOR.

THE Begonia is one of the first in the list of plants which have been greatly improved thanks to its prolific variability, and especially to the numerous hybridisings and selections of which the various species have been the object. One of the most interesting productions is that of M. M. Vallerand frères, the hybrid *B. cristata* so named on account of the outgrowths in the form of crests which are developed



EUCCHARIS AMAZONICA IN A JAMAICA WILD GARDEN.

in the centre of the petals, giving to the plant a distinct and pleasing appearance. This characteristic has been fixed by successive selections and is reproduced freely from seed. This brilliant production has recently been augmented by a new variety produced by M. Arthur Billard. M. Billard has, after numerous trials, succeeded in obtaining a flower whose petals, properly called the crested outgrowth, are of two quite distinct shades, and has named it *B. t. h. cristata bicolor*. The crest is of a darker shade than the petals; the pale pink flower has a deep pink crest, and the crest of the salmon coloured flower is of a coppery tint. This new race appears to us to be very meritorious, and



SOLDANELLA PUSILLA AND S. MINIMA.

such was also the opinion of the committee of the Société Nationale d'Horticulture who thought very highly of the types exhibited before them. Lovers of Begonias will certainly be interested in this curious and charming novelty.

ALBERT MANMENE in *Le Jardin*.

NOTES ON HARDY PLANTS

THE WINTER HELIOTROPE AS A GARDEN PLANT.

IN THE GARDEN of January 18, page 47, Mr. T. B. Field advocates the growth of the winter Heliotrope (*Petasites fragrans*) as a garden plant. I fully endorse all that he says about its value in the winter season, and, notwithstanding its abundance as a roadside weed in this neighbourhood, I have allowed it to grow on a waste piece of ground in my garden, and was rewarded from about the middle of December almost to the present time with an abundance of its sweet-smelling flowers, which, under the influence of sun, quite perfume the air.

Your correspondent says that the plant holds its own in a tolerably good soil. In this part of Devonshire it apparently cares neither for soil nor position, for it grows and flowers upon heaps of stones by the roadside, even under the shade of a high wall and exposed to the east wind. In my own garden it seems to have flourished best on the north side of the house, where sun seldom or never reaches it. As your correspondent suggests, the flowers and a few leaves are valuable at Christmas and through January for mixing with the other few outdoor plants available, and the flowers so arranged are by no means without attraction, notwithstanding the absence of any what may be called definite colour.

While writing it may be worth mentioning that, in spite of the severe frosts we are again experiencing, the hedgebanks are beginning to be clothed with fresh green foliage of many wild plants, that of the Arum being conspicuous by its bright, shiny green. Periwinkles have not really ceased flowering all the winter, and as I write I have a small posy of them on my table. The golden-yellow of the Gorse reflected in the sunlight has brightened up the tops of the hedgerows for some weeks past. These, together with Primroses, Violets, and Wallflowers in the gardens, and the occasional appearance of a few Daisies in the grass, indicate the approach of spring, though there is probably still some weeks of wintry weather before us.—JOHN R. JACKSON, *Claremont, Lympstone, Devon*.

ERYTHRONIUMS.

MR. MALLETT's article on Erythroniums is a most excellent one. A few notes in addition may be of interest. We owe none of the American Erythroniums to garden variation, but every one in cultivation is a wild local variation. There is quite a difference in the native natural habitat of the Pacific Coast varieties. 1. *E. revolutum* and its variations of var. *Johnsonii*, *Watsonii*, *Bolanderii* (Smithii), and *Pink Beauty* grow naturally a short distance (twelve to twenty miles) from the Pacific Ocean, in rather heavy soil, in cool moist flats on the border of forest, usually in the underbrush. Nevertheless, it is at its very best where the timber has been cut and the underbrush cut or burned over. There for two or three years it will grow two or three times its normal height and size. 2. *E. giganteum*, *E. Hendersonii*, *E. Howellii*, and *E. citrinum* begin where the *E. revolutum* leaves off. Sometimes they are found on the slopes of hills, on the sunny side, in timber, while the *revolutum* are in the heavy flat land at the base. From there they are found farther inward on the cool slopes in open timber or underbrush, and at their very best in rich *débris* of broken rock mingled with vegetable matter. They may be found in clay, loam, sandy loam, or grit as well, and are best in recently burned-over soils. 3. *E. Hartwegii* is distinct in its distribution. It is native of the foothill belt of the Sierra Nevada, a hot dry region, very free from frost, at an elevation of 1,200 feet to 2,000 feet. There it thrives in situations on rock and beneath low bushes, where it is exceedingly hot and dry in summer. In consequence *E. Hartwegii* will stand sun, drought, and heat as no other Erythronium will. 4. *E. montanum*, *E. purpurascens*, and some forms of *E. grandiflorum* grow at a high altitude, from 4,000 feet to 8,000 feet, and are often sub-alpine. They more often grow in the open, but the open season is very short, often only two months between snows. They are difficult garden subjects to manage. *E. grandiflorum* var. *album* grows at about 1,400 feet altitude in Eastern Washington. There it is found in open Pine forests in a sandy soil, and flowers in April. One form of *E. grandiflorum*

(var. *robusta*) grows on the Columbia River, very little above the sea level, in open Pine woods. It flowers early.

Ukiah, California.

CARL PURDY.

PRIMULA MEGASEÆFOLIA.

IN the Rev. C. Wolley Dod's interesting note on the above in the *Gardener's Chronicle* of February 1 he refers to the uncertainty of its season of flowering as being a drawback to its open air cultivation in England. I have it flowering well in a cold frame and also out in the open, and of the two the plants in the rock garden are the better. They have withstood 15° of frost uninjured, and are looking thoroughly at home. Carl Sprenger gives the flowering seasons as May, autumn, and winter. I can speak for its winter flowering capacity, but it remains to be seen if the same plants will flower again in May and autumn. The plants for which I was given an award last April at the Drill Hall set their seeds well and are strong plants in fine flower now.—E. WILLMOTT, *Warley Place*.

THE SOLDANELLAS.

THE genus *Soldanella* is essentially alpine and European, not being found anywhere but in the mountains and alpine regions of the middle and south of Europe.

Only one species, *S. alpina*, was known to Linnaeus. Since his time a certain number have been determined, and Willdenow especially has separated the older type into two species, which are admitted by the "Index Kewensis," namely, *S. alpina* and *S. montana*. Baumgarten established the species *S. pusilla*, and Hoppe *S. minima*. Further, Schott and Kotschy discovered *S. pyrolæfolia* in the Austrian Alps, and especially in those of Transylvania. Finally, Kerner found a hybrid of *S. alpina* and *pusilla*, and Huter another of *alpina* and *minima*, which he named *Gauderi*. This makes seven *Soldanellas*, five being species (though in the "Index Kewensis" they are reduced to four, *S. pyrolæfolia* not being detached from *S. alpina*) and two hybrids.

The several species group themselves under two types, namely, the old *S. alpina* of Linnaeus and *S. pusilla*. The distinctive character that separates them is that in the *alpina* group the style is either of equal length with the corolla or longer, and the flowers are set two or three upon the same stem, while in the second group the style is shorter than the corolla and the flowers are solitary.

Soldanella alpina (Willd.) grows in mountain regions at from 4,000 feet to 8,000 feet throughout the Alpine chain, in the Southern Jura, the Cantal Range, the Pyrenees, the mountains of Aragon, and the Apennines. It is distinguished by its reniform, entire leaves, very sparsely toothed, with two ear-like drooping lobes at the base, and by its flower-stem of a height of 3 inches to 5½ inches; the pedicels are a little roughened by the presence of sessile glands; the scales of the corolla (abortive stamens alternating with the lobes of the corolla) are attached to the filaments.

S. montana (Willd.) grows in the mountain regions at 3,000 feet to 4,000 feet, in the Alps of Austria, of Transylvania, of Lombardy, and in the Lower Pyrenees. In this species the leaves are rounded instead of being kidney shaped, more or less crenate, the underside often of a strong purple colour; the flower-stem has a height of 12 inches to 14 inches; the scales of the corolla are free; the leaves are indented (pitted) and with untoothed lobes; the pedicel, calyx, and petiole are furnished with glandular hairs.

S. pyrolæfolia (Schott and Kotschy).—Eastern and Transylvanian Alps, within the

alpine zone. Leaves orbicular, thick, and bright green; undersides strongly ribbed and regularly pitted above; flower-stem very long, glandular at the base.

S. pusilla (Baumg.) syn. *S. Clusii* (Gaud.)—Granitic Alps of Central and Eastern Switzerland, of Lombardy, and the Carpathians (at 5,000 feet to 7,000 feet, always on the granite); plant very small, leaves minute cordi-renal form, very slightly crenate, and a little pitted towards their base; flower-stalk 3 inches to 6 inches high, set with small glands; flower always solitary; corolla narrow, long-shaped, reddish violet, fringed for nearly one-third of the length, the fringe recurved outwards.

S. minima (Hoppe).—Limestone Alps of Eastern Switzerland (Grisons), of the Tyrol, Croatia, and the Carpathians, at 6,000 feet to 7,000 feet; the smallest of the Soldanellas—absolutely liliputian; leaves very small, quite round, and never indented at the base; flower-stem from 3½ inches to 4 inches high, slightly downy, and invariably one-flowered; flower lilac-white, with fringing barely a quarter of the length.

S. Gauderi (Hut.) is intermediate between *S. alpina* and *S. minima*, but rather nearer the former; and *S. hybrida* syn. *Media* (Brügg) is half-way between *S. alpina* and *S. pusilla*.

As for the culture of the Soldanellas, it is obviously the same for all species. They do not so much require a damp soil (as is so generally supposed) as a moisture-laden atmosphere, plenty of light, and very little heat. In the Alps the first fine days bring them into bloom. They do not even wait for the spring for the expansion of their corollas, and I have often found them flowering under the snow in little cavities made by themselves.* Dr. Christ has often observed the same thing, and has made many examinations in the hope of finding out the reason of this habit.†

For many years I tried to acclimatise the Soldanellas, but could never get them to flower; but one day in February, under a glass *cloche* that had accidentally been left over a tuft, there was a fine mass of bloom of *S. alpina*. Hurrah! I had discovered the secret! The *cloche* had warmed the earth, and converted the moisture into vapour, and had retained it around the buds and flowers. Since then I tried growing them in sphagnum, which, as is well known, holds moisture like a sponge, and gives it off by degrees to the atmosphere, so that the plant is surrounded by vapour without being too wet at the root. The results were excellent, and since I have adopted this plan I have had Soldanellas in bloom from February to April.

In those parts of England where the moisture of the air does not need the aid of the sphagnum, the plant flowers well, though it

misses somewhat of light and sun. It should be planted in a southern exposure in well-drained rockwork in light soil. Probably it would do well in Jadoo fibre. In any case, it must have full sunlight and moist air.

Geneva.

HENRY CORREVON.

CORRESPONDENCE.

(The Editors are not responsible for the opinions expressed by their correspondents.)

YOUNG GARDENERS.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—I read the remarks of your able correspondent recently with much interest. Read, as they will be, by those who are in the future to maintain the supremacy of British horticulture, such expressions of opinion will receive, as they richly merit, the most serious attention. I was much struck with one remark—"It is often the most competent who pay the greatest heed to their self-improvement." I was glad to read the high opinion formed on gardeners' mutual improvement associations, these very practical evidences of horticultural activity. They are capable of still greater development, from an educational point of view, by reason of the facilities which they afford for original observation and as a means of giving expression to such by committing these observations and ideas to writing in the form of notes and essays or joining in the discussions usual at these meetings, both laudable forms of endeavour tending to the proper development of that important faculty, language, a correct exercise of which is so essential to the private gardener, specially brought as he is in constant contact with his employer. It may be a little removed from the subject under discussion, but I have long thought if a federation of these excellent gardeners' mutual improvement associations could be formed—and I see nothing visionary in the idea—much good to gardening would result. An annual meeting might be held, each association being represented by a delegate at this gathering, where matters of urgent importance to the gardening fraternity could be profitably discussed and means devised for the amelioration of those belonging to a body whose very isolation is the present great stumbling-block to its advancement in many ways, rendering combined action for common interests impossible.

In an excellent address to Irish gardeners given only recently by my very old friend Mr. F. W. Burbidge, I was pleased to see he recommended to young gardeners the study of Professor Jevon's "Primer of Logic" and his companion volume on "Political Economy," both of which are invaluable to young men, and he very wisely added to these Mr. John Wright's "Primer of Horticulture," which deals with the principles of gardening in a clear and efficient manner, typical, indeed, of all Mr. Wright's contributions to horticultural literature. In the matter of gardeners' examinations the Royal Horticultural Society is doing much to advance the best interests of the coming race of gardeners, and by your courtesy I would like to suggest that the council of the society, in order to further encourage gardeners' mutual improvement associations, should offer medals for the three best essays delivered in the sessions of the whole body of such associations, with the further honour that they should be published in the journal of the society. I venture to affirm that action and recognition of this welcome kind by the national exponent of practical horticulture in this country would produce the most beneficial results. QVO.

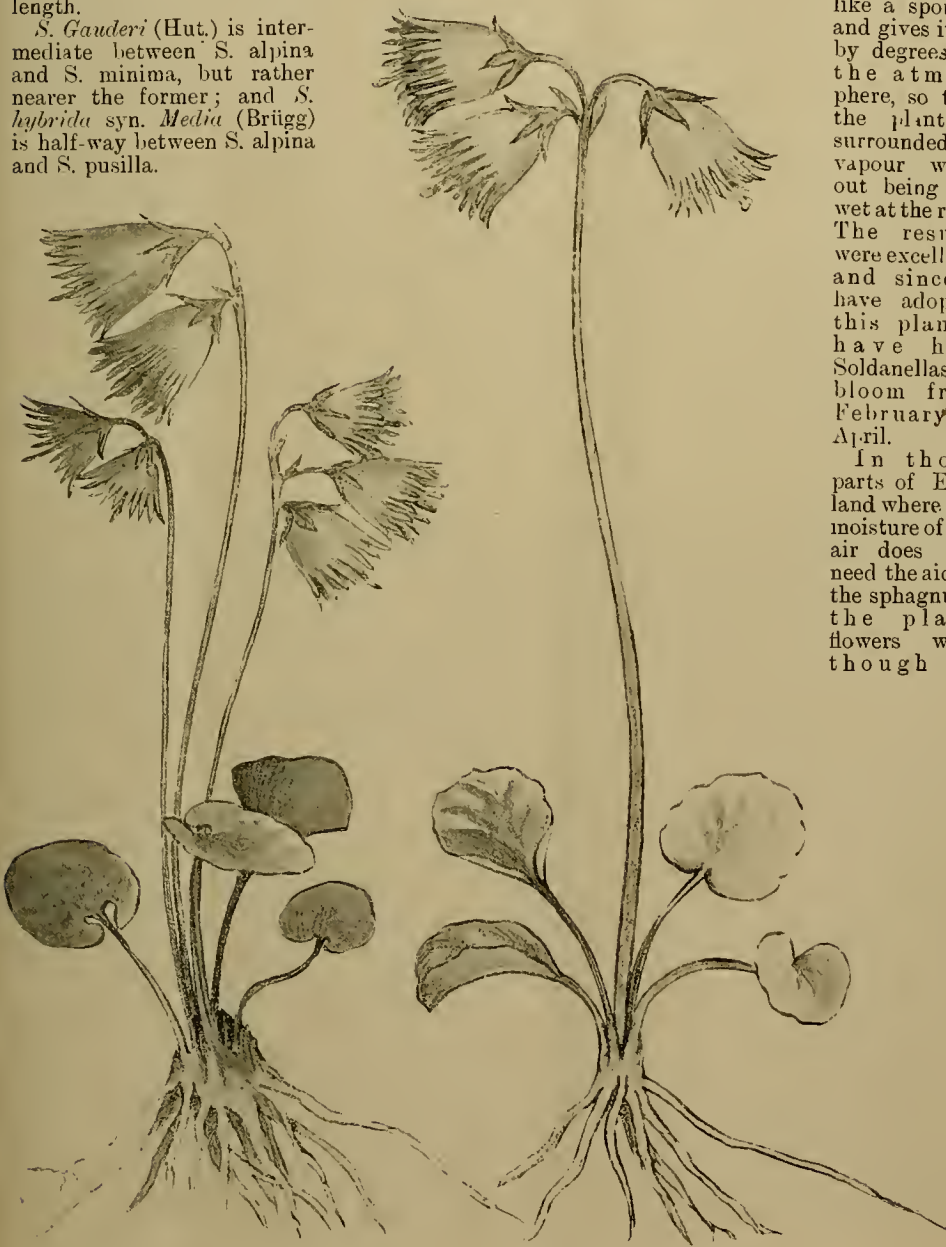
AGAPANTHUS UMBELLATUS ALBUS.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—I should like to offer a few additional remarks to those given by you in your issue of

* H. Correvon, "Les plants des Alpes," page 83 (Geneva, 1885).

† Dr. H. Christ, "La Flore de la Suisse et ses origines," page 377.



SOLDANELLA ALPINA (NATURAL SIZE).

S. MONTANA (NATURAL SIZE).

the 8th inst. *re* the above plant. I have grown it for many years with varying success. Of course, like so many new plants—or, at least, as is the case with new plants—it was bought while flowering, and was treated in a similar way to the ordinary variety, but I soon discovered that this treatment produced very few flower-heads; consequently I had to modify the treatment. At first I grew the plants on freely during the spring and early summer, and gradually brought them to rest at the end of summer and autumn. They were then treated similarly to the ordinary form, viz., a few thorough soakings of water were given during the winter. This, however, did not bring about the desired effect, but it certainly caused the plants to grow more vigorously the following spring. I then tried a far more drastic measure, viz., I threw them under a close stage near the hot-water pipes, where it was impossible for any water to reach them the whole of the winter—a “kill or cure” sort of remedy, rather than with a view of inducing them to flower. It, however, proved to be the correct remedy, for they have never disappointed me since I adopted it, for plants in 7-inch pots will produce three really good umbels of flower of the purest white, and when seen in this way they are worth growing. Last summer I had plants in 8-inch pots with seven flower-heads—a really fine sight. I think if your enquirer will try this he will not be disappointed. Only begin in time early in autumn after a thorough summer's growth. THOMAS ARNOLD.

The Gardens, Cirencester.

[TO THE EDITOR OF “THE GARDEN.”]

SIR,—I see in the page devoted to “Answers to Correspondents,” on February 8, a note from Mr. H. R. Dugmore respecting the above plant, which for the last dozen years he has endeavoured unsuccessfully to flower in varied exposures and sites both in the open and under glass. My experience with this subject has been the direct opposite of your correspondent's. About twelve years ago I gave away a small clump which was planted on a steep bank of light soil overhanging the salt water at Kingswear, South Devon. It was given some good soil at planting, since when it has been undisturbed, and for the last half-dozen years has flowered well. Three large clumps of the blue *Agapanthus umbellatus*, about 4 feet in diameter, are growing on the same slope and bloom profusely. The white form that I refer to is so distinct from the common blue *Agapanthus umbellatus* that I cannot but agree with Mr. Dugmore as to its being a species and not a variety. Its leaves are far shorter than those of the blue *Agapanthus*, and are less than half their width. They die naturally in the winter, whereas those of the blue *Agapanthus* remain intact unless damaged by frost.

The flowers of the white form are produced much earlier than are those of the blue, the former being invariably past before the latter are expanded, while the bloom-spikes of the white are considerably taller and the individual flowers less densely clustered. There are, I believe, two forms of the white *Agapanthus*, one of which is far inferior to the other. My only experience has been with what is probably the best of these, as it is a highly ornamental plant, which in favoured spots in the south-west flowers well and regularly and proves hardy in the open without the slightest winter protection. As to the recommendation that it should be dried off during the winter, given in Nicholson's Dictionary and referred to in the editorial note, I can only say that the clump in question is fully exposed to the winter rains, which in South Devon are usually heavy—for instance, last December's rainfall was $7\frac{1}{2}$ inches—but remains the picture of health. The drainage of the spot where it is planted is naturally

rapid, and possibly in heavy, damp soil drying off would prove beneficial, but in light, porous staple in the south-west it is evidently unnecessary.

S. W. FITZHERBERT.

[TO THE EDITOR OF “THE GARDEN.”]

SIR,—The same treatment as for the common blue *Agapanthus* should suit the above. It may be a shy or alternate bloomer. My plant had six spikes in 1899, none in 1900, and ten in 1901. This year it may fail. It looks well, however, in a greenhouse from which frost is excluded, 40° at night, sometimes less, and is kept just moist. It is *not* deciduous. I think that drying off would be fatal, as the flower-spikes are doubtless ready to start at their appointed time, and would be crippled by dryness of the Leek-like stems which contain them.

St. John's Wood.

E. ALLEN.

THE ROYAL HORTICULTURAL SOCIETY.

[TO THE EDITOR OF “THE GARDEN.”]

SIR,—Some misconception appears to have arisen from the remarks made by Sir Trevor Lawrence at the late annual meeting of the Royal Horticultural Society with reference to the contemplated horticultural hall and offices. The question has been asked—Has the council forgotten the pledge given, more than once, that, before final decision, the whole matter shall be referred to the general body of the Fellows of the society throughout the country? The answer is distinctly, No.

The matter stands thus. At the instance of Baron Schröder the council appointed the “Baron Schröder Committee” to consider the question of a hall, the need for which, even those who think that a new garden is still more necessary, must certainly admit. It was felt that not only should no obstacle be raised, but that the warmest welcome should be extended to any effort in this direction initiated by so enthusiastic and liberal a patron and supporter of horticulture as Baron Schröder, for it is recognised that only by the generous assistance of such men can there be any possibility of realising the hoped-for result. Hence the committee. But its report has not yet been presented to the council, the majority of the members being, so far, in as complete ignorance of

even the outlines of the coming scheme as can be the least informed Fellow of the society. We are prepared to “possess our souls in patience,” and to look for the presentation of a scheme which will give to the Royal Horticultural Society a hall worthy of its reputation, while effectually safeguarding the financial position of the society having regard to its other and more purely horticultural objects.

Should this be so, it may well recommend itself to the Fellows of the society, that, having regard to all the circumstances, the present resolution that a “New Chiswick” shall be the society's formal recognition of its “centenary” may be reconsidered. However, it is clear, in view of the pledge given, indeed, in recognition to an obvious right, that the ultimate decision must be referred to the Fellows of the society throughout the country. This is not merely a question for the metropolitan section of the Fellows, but concerns all.

A MEMBER OF COUNCIL.

ROSE AUGUSTINE GUINOIS-SEAU.

This hybrid Tea Rose, of which an illustration is given, flowers most persistently, producing its blossoms far into the autumn, and thus establishing itself as a most useful variety for those whose limited space permits them to grow but few sorts. In any but exceptionally unfavourable seasons one may gather this Rose freely until well into November. Later than this the almost white deliciously fragrant flowers very often refuse to develop, and the buds decay without opening; one can, however, overlook such a failing so late in the season. If the buds are cut and placed in warm water in the dwelling-house many of them will expand beautifully. T.

EARLY-FLOWERING CHRYSANTHEMUMS.

ADVANTAGES OF EARLY SPRING PROPAGATION.

I HAVE never appreciated the advice of some writers when they have advocated the autumn propagation of the early-flowering Chrysanthemums.



HYBRID TEA ROSE AUGUSTINE GUINOISSEAU.

mums. Cuttings available in the autumn and early winter always appear to lack that vigour which should characterise stock destined to perpetuate the beautiful varieties now in commerce. I have no hesitation in saying that if the old stools be lifted from the open and replanted in cold frames or in any cool glass structure infinitely better results will accrue and a prosperous season in consequence may be anticipated. The same rule applies to plants flowered in pots, and these, if the ball of soil and roots be reduced and planted out in some light gritty compost, will ultimately develop satisfactory growth. A single root of each of the varieties it is proposed to perpetuate will usually suffice, the old stools simply bristling with shoots of recent growth when treated to this considerate handling. It is astonishing what a quantity of cuttings may be obtained from old stools in this way, and if they can be placed in a house where a genial temperature prevails there seems no limit to the number produced. Lifting the old stools and treating them as I have just described creates an interval of something like two months, during which period they are gaining in vigour and developing healthy stock. By the time the days are lengthening considerably an abundant supply of healthy cuttings is available. Shallow boxes are preferred for cuttings to all other receptacles at this season, the depth of soil minimising the risk of it becoming too moist and sour. When the cuttings are inserted about 2 inches apart and the same distance between the rows they are easily placed in position. When the time arrives for the young plants to be potted up singly this may be carried out quite comfortably. Experience has taught one to make the cuttings about 2½ inches to 3 inches in length, this being the happy medium, and it answers admirably. If cuttings have to be bought in procure the better sorts. There are so many excellent varieties now in commerce that many of the older ones may be dispensed with. Typical early sorts are represented by Mme. Marie Masse and its sport Ralph Curtis, Crimson Marie Masse, Orange Masse, and another member of the same family being distributed in the ensuing spring and known as Horace Martin. I had quite forgotten the pretty cerise sport named Robbie Burns, the plants rarely exceeding 3 feet in height and flower profusely.

At this early period of the year the cuttings root very quickly, and if the temperature be maintained at about 45° to 50° rooting process will soon take place, and be denoted by fresh growth at the apex of each one. If there should be a difficulty in providing a sufficient supply of plants in the early spring, cuttings may be propagated well into May, and the resulting plants will soon develop in the open border. The late Mr. W. Piercy, of Forest Hill, S.E., an enthusiastic advocate of the early Chrysanthemums for border culture, would often speak in praise of the quick results obtainable from these plants. I have often seen plants in his collection which were propagated in May and June bearing a charming display of blossoms in the following early September. This was in days long ago, but with increased variety and a long list of sorts of undoubted merit the results are better in every way. It is as border plants that the early Chrysanthemums are becoming increasingly popular, and on looking through the list of other hardy flowers to be found in the garden in the early and late autumn, there is no other group capable of making such a glorious and prolonged display.

D. E. C.

HARDY FRUITS IN SEASON.

PEAR JOSEPHINE DE MALINES.

ONE of the most valuable of our late Pears, in season from February to May. It is of medium size, the skin is of a yellow colour, shaded with red on the sunny side, and the surface covered with russet spots. The flesh is yellowish with a tinge of red, juicy and melting, and of a rich sugary flavour, possessing a pleasant aroma. This variety is of free growth and hardy, succeeding well as

a pyramid in the open or as a standard in the orchard, providing that the ground is of ordinary quality and depth. It also succeeds well as a cordon, and grown in this manner on a wall the fruit is larger, and in cold seasons is of much better quality. The tree should be double-grafted.

OWEN THOMAS.

GARDENING OF THE WEEK.

INDOOR GARDEN.

ALLAMANDAS, Bougainvilleas, Clerodendrons, and Dipladenias should be potted when they show signs of growth. Allamandas and Bougainvilleas should be potted in a compost of three parts fibrous loam, one part peat leaf-mould and dry cow manure, with the addition of charcoal and sharp sand. Plants in tubs or large pots may have the surface soil removed and given a liberal top-dressing. If given manure water when in active growth they may be kept in good health for several years. Clerodendrons do well in a mixture of peat and loam in equal parts, adding a little cow manure and sand; the shrubby sorts need a much richer compost. Dipladenias should have a mixture of peat, with sufficient sand to keep it porous; give efficient drainage, and let the plants be syringed twice daily, but water must be carefully applied until growth at the root becomes active. Eucharises should have their drainage examined and given a top-dressing. They do not require repotting unless the bulbs get overcrowded. I advise July as the best time for the latter operation.

PANCRATIUMS.

The less repotting that is given to these the better while the plants remain healthy. Give them an occasional dose of liquid manure water. I have found Peruvian Guano and soot water used alternately suits them well. When a shift is necessary carefully shake the exhausted soil from the roots and pot in a mixture of three parts fibrous loam, one part leaf soil, adding charcoal and silver sand. We do not practise drying off, but the water supply is somewhat lessened for a time after the flowering is over.

BEGONIAS.

Corallina, President Carnot, maculata, undulata, and many other shrubby ones are excellent for covering pillars and training up the rafters in the stove; if kept growing they will continue to flower through the whole year. They flourish in a soil composed of equal parts of fibrous loam, peat, leaf-mould, and dried cow manure, with a sprinkling of sand, and may be easily increased by inserting cuttings. Begonia fuchsoides is a most beautiful and elegant plant for covering walls or pillars in a greenhouse. If planted out it is a continual and profuse bloomer. Rooted cuttings of

TREE CARNATIONS

should be removed from the propagating frame and placed near the glass in an intermediate house. In about a fortnight they should be potted into 3-inch pots, in a mixture of loam, leaf-mould, and enough sand to keep the soil porous. After potting they should be placed in the same temperature until

they root into the fresh soil, when they may be transferred to a cold frame. Cuttings of Crotons may still be put in before they commence to make new growth. Dracanas may also be increased. Cuttings of Ficus elastica may also be inserted, using the half ripened shoots, or it can also be increased from buds. Prick out seedling Gloxinias and tuberous-rooted Begonias as soon as they can be handled into pans filled with loam, peat, leaf soil, and sand, keeping them near the glass.

JOHN FLEMING.

Wexham Park Gardens, Slough.

KITCHEN GARDEN.

ONIONS.

THOSE which were sown in boxes last month ought by now to be quite ready for pricking off into others at a distance of 3 inches apart all ways. A suitable compost will be two parts fibrous loam, one part well decayed leaf-soil, and one part half rotten horse droppings, adding sufficient road scrapings to render it porous. The whole should be passed through a quarter-inch mesh sieve and well mixed. Use in a moderately dry condition and make thoroughly firm. The work is best accomplished in the structure in which the plants are growing, if possible, as it is most important



PEAR JOSEPHINE DE MALINES (SLIGHTLY REDUCED).

that the young plants should not suffer from any check. Thoroughly water in immediately afterwards.

Spray the plants frequently during the day, and shade during intervals of bright sunshine to prevent them flagging. Sufficient air must be admitted to keep them sturdy, maintain a temperature of 50° or 55°, and bear in mind that any undue forcing must be strictly guarded against. Unquestionably the plan of raising Onions under glass is every year finding more favour, and, whether one wishes to excel in obtaining large exhibition bulbs or not, part if not the whole of the crop should be treated in this way. Seldom, indeed, are they damaged to any extent by the Onion fly, and much better results are obtained generally. But, in any case, successful Onion culture depends very much on the proper preparation of the ground and sowing the seed early; consequently, those which still rely on the old method of sowing in the open should not miss the first favourable opportunity when the land is in a nice workable condition to get in the seed. Choose a fine, drying morning, strew the surface with a mixture of soot and wood ashes, point it over 2 inches or 3 inches deep, and in a few hours it may be raked down with a wooden rake and the drills drawn 1 foot apart. The seed sown, alleys 15 inches should be thrown

out all round the bed, and the whole raked down in a neat and tidy manner.

PARSLEY.

Besides being one of the most useful items cultivated in the kitchen garden, it is also very attractive when well grown and a good strain can be depended upon. I have for many years relied principally on Veitch's Extra Curled, which is perfectly hardy, has a splendid habit, and is always true. The most successful way to grow good Parsley is to sow in boxes under glass in a slight heat, distribute the seed thinly, carefully harden off, and plant out in rows 1 foot apart all ways. This will give splendid returns in summer and autumn, and is much in advance of that raised in the open ground.

SEAKALE.

Where this is grown at home for forcing, the best mode of raising it is from cuttings, and no time should now be lost in preparing them. All the small rootlets trimmed off when lifted for forcing will make excellent sets for the purpose. These should be cut in lengths of 6 inches and tied in bundles of twenty-five, standing them in an

otherwise useless wood, it should be done. Young bushes should be trained in the shape of a basin, upon a short single stem, their branches being adjusted by being secured to a hoop. Commence with a foundation of young shoots, cut down to half their length to an outside bud, so that both fruitful sprays, and subsidiary and leading shoots to properly furnish the bushes may be plentifully supplied, this mode of procedure being yearly followed until the desired height is attained. Remove suckers as they appear.

RASPBERRIES.

These, like all other fruits, suffer if too closely trained, and for this reason alone they can be more successfully grown with their canes properly spread upon trellises than when collected together and secured to stakes. In cases where the old canes were removed as soon as the fruit was gathered, and the young ones carefully thinned during the growing season, all that now remains to be done is to tie the selected ones, about 9 inches apart, to the trellises, and shorten them according to their condition. Strong, well-matured ones may merely have a foot or so of their points

top-dressings of suitable manurial compounds will be beneficial, especially to established Vines.

T. COOMBER.

The Hendre Gardens, Monmouth.

THE FLOWER GARDEN.

THE propagation of bedding plants, such as Heliotrope, Ageratum, Verbena, Alternanthera, Iresine, &c., should now be proceeded with rapidly, as the cuttings being young and growing soon take root if they are inserted in light soil and placed in a fairly brisk heat. Pricking off seedlings that are ready of any early sowings should be attended to, and all the half-hardy plants in pits and frames should be thoroughly looked over, while at the same time care should be taken to avoid damping by giving plenty of air on all favourable occasions. The

PRUNING OF SHRUBS

and trees and clipping hedges are matters that may be finished on the first favourable opportunity, namely, in mild weather. Clearing out undergrowth and cutting away branches or removing and grubbing out unsightly trees and shrubs are matters that can be now taken in hand if not already done. Roses on walls for giving an early supply of flowers should be pruned, and if necessary a little protection provided for them in case of late frosts. Climbers on walls should have all the pruning and training that it is intended to give them finished at once.

HUGH A. PETTIGREW.

NEW POTATO CARLTONIAN.

WHEN well known, this new Potato, which was raised in the north of England, near Penrith, is sure to become popular. It came out of the tests conducted by the vegetable committee of the Royal Horticultural Society at Chiswick very creditably indeed. It had previously received three marks for its heavy cropping, and was also free from disease. Messrs. Cutbush and Son, The Nurseries, Highgate, N., have obtained the stock

of this excellent Potato, and are sending it out. The flavour of Potato Carltonian is all that one could wish, the tubers keep well, and are shapely, with few eyes. The accompanying illustration (for which we are indebted to Messrs. Cutbush) shows well its general appearance.

EDITORS' TABLE.

IRISES FROM WINCHMORE HILL.

Mr. Perry, the well-known plant cultivator of Winchmore Hill, sends some charming flowers of the little early dwarf Irises, amongst the most welcome of all early-flowering things, so bright in colour and sweet scented. These winter-blooming Irises should be grown by the million. They are quite easy to grow, and as beautiful in colouring as any Orchid. Included in his gathering were the little yellow Iris Danfordie, *I. reticulata purpurea*, *I. kolpokowskiana*, and the lovely *I. histrioides*. *I. kolpokowskiana* is a gem; the standards are bright purple, and the falls white with yellow blotch and deep velvety purple lip, so to speak.



THE NEW POTATO CARLTONIAN.

upright position in boxes, and place a little fine soil about them. Stand them under the greenhouse stage, when they will quickly form eyes, after which they should be removed to a lighter position, such as a cold frame, planting them out early in April on well prepared and heavily manured ground. These should make fine crowns for next season's supplies. All vacant plots of ground should now be turned over to a good depth as quickly as possible, but keep off stiff land in wet weather.

E. BECKETT.

Aldenham House Gardens, Elstree, Herts.

FRUIT GARDEN.

COR NUTS AND FILBERTS.

IN pruning established bushes the strong shoots should be entirely removed, except where required to form permanent branches to fill vacancies, when they should be shortened to about half their length, and the twiggy branches, which usually produce fruit freely, should be sufficiently thinned to prevent crowding. At the same time sufficient catkins must be retained, and if for this purpose it is expedient, for the time being, to leave some

removed, while those less robust or imperfectly matured, in order to benefit the new growths, should be more severely shortened. October Red, Belle de Fontenay, and other autumn-fruiting kinds, which afford a useful late supply of fruit from the current year's growths, should be entirely cut down, while recently planted canes of any variety should be shortened to within a foot of the soil.

VINES UPON WALLS.

These deserve better treatment than is usually bestowed upon them. They should now be pruned by cutting back to three buds the lateral growths upon spurs, but young wood that has been trained in for the purpose of extension or to replace old rods, which, by the by, is sound practice, should be shortened to about 4 feet. In cases where red spider has been troublesome the rods should be relieved of loose bark, thoroughly washed with a hot solution of Gishurst Compound, and subsequently secured in position. As a means of affording nourishment a few inches of the surface of the borders may be removed and be supplemented with fresh rich compost, or should this be impracticable, a copious supply of diluted liquid manure or



CHINESE PRIMULA PRINCESS MAY.

From Mr. W. I. Caparne we receive some charming blooms of his strain of

HYBRID ALPINE IRISES

from the greenhouse, showing what delightful flowers these are for cold greenhouse treatment. We shall hope to publish shortly a description of the manner in which they are arranged for this very successful culture.

NURSERY GARDENS.

PRIMULAS AT MESSRS. CARTER AND CO.'S.

BY reason of its free production of flowers of many beautiful shades, at so unfavourable a season of the year, by its comparatively easy culture, and also because other tender flowers are now wanting in quantity for the brightening of our greenhouses, the Primula may be said to be everybody's flower, and everyone therefore, it may be presumed, has an interest in it. Should anyone wish to see how the Primula withstands the London atmosphere he has but to journey to Forest Hill and there to inspect the houses in Messrs. Carter's nursery that are devoted to the culture of the Primula for seed production. He will learn that, although the flowers do not remain in full beauty so long as they do in a more favourable neighbourhood, yet by following the plan adopted by Messrs. Carter, and so growing them as to have the plants in flower rather late in the season, the disadvantages inseparable from a London atmosphere will be greatly minimised.

The colours of Messrs. Carter's Primulas are very good and distinct, and show well that their efforts in the improvement of the Primula have not been without good results. Amongst several new varieties Princess May (a photograph of which we herewith reproduce) is a striking flower, large, of a rich, soft pink, and very free blooming. Princess of Wales is a beautiful double flower, salmon rose in colour, and the same may be said of Lilac Queen, very deep lilac, and Carmine Empress, deep carmine, both double varieties. Queen Alexandra, pure white double, Elaine Improved, and King Edward are three new Primulas all well worthy of note.

Messrs. Carter have succeeded in obtaining a giant flowered Primula, with massive rose lilac flowers, which they have named Hercules, and this

variety has proved most useful for hybridising purposes. Ruby (red, with tiny marks of white on the petals) crossed with Hercules has produced a charming flower, large, and in which the pretty scattered white markings of Ruby become definite. Hercules x Scarlet, Hercules x Vermilion, and Hercules x a blue Primula have also produced blooms that show the selection to have been a good one. In Holborn Carmine crossed with Hercules the white circle around the eye of the flower becomes dark, and the latter is large and bold. Holborn Blue is of the best amongst its particular colour, and this, when crossed with the blue Primrose, gives a flower of intense blue colouring.

In the numerous crosses that have been effected between Primula stellata and the Giant Chinese

Primula one may see a great variety of forms and shades, many of which will have to be discarded, because not superior to their parents, although the few good ones obtained will easily repay all the care and trouble expended upon hybridising—work that requires the exercise of much skill and patience to be successful.

Such are a few of the more remarkable and striking of Messrs. Carter's Primulas, both new and old, that one cannot fail to notice during an inspection of the collection at Forest Hill, where several houses are filled with varieties, notable for their good and distinct colouring.

KEW NOTES.

THE GREENHOUSE IN MIDWINTER.

BOTH for amateurs and professional gardeners whose aim is plant decoration the educational value of the fine greenhouse range (No. 4) is incalculable. Just now, the middle of February, with a severely low temperature out of doors, holding vegetation in check, it is a marvel of flower and fragrance. Not only so, but the plant lover, as distinguished from the practical gardener, may here find a vast deal to interest him in his own line. A soft flush of fruit blossom greets the visitor at the entrance. Cherries, Crab Apples, and Plums, pink and white, with flowers both double and single, stand well against the permanent greenery of the shrubs in the central borders. Standard Wistarias, about 3 feet in height, are full of bloom. It is evident enough that the white variety is less robust than the older lilac type, but both are fine. W. chinensis (for there are other species not so good) is well worth growing in this form, first, for conservatories at this early season; and later, when the plants threaten to become unwieldy, to make garden standards, which have only to be seen in perfection, as in Italy, to be much more grown in English gardens than they are at present.

The air is sweet with the fragrance of Cytisus and of Acacia fragrans, a slender-growing elegant species, with pale sulphur spikes of bloom. Further on a dwarf specimen of A. Drummondii might almost be mistaken for a Cytisus but for its short pale cylinders of flower. Everywhere Azaleas give a great show of delicate colour. It is a lesson hard for gardeners to learn that the Azaleas are henceforth to be classed with Rhododendrons. Botanically, it is ruled that they cannot be separated, because there is no absolutely distinguishing character belonging to one or the other;

but for the public Rhododendrons will be Rhododendrons and Azaleas will be Azaleas still for many a long day. Nevertheless, it is just as well to note that by rights we should speak of these two genera, Azalea indica and A. mollis, as Rhododendron indica and R. sinensis.

Grouped on the side stages at either main door are Hippeastrums. Spring bulbs—Narcissi of all the best older sorts, Hyacinths, and Tulips are in great profusion, and the purple of Iris reticulata mingles with the white bells of Lily of the Valley. Epacris of many lovely shades, ranging from crimson to purest white, are disposed in breadths, for here we have the opportunity, seldom available, of seeing groups of plants rather than single specimens, a plan which is as instructive as it is ornamental. Primulas of many kinds are well represented, amongst them a pretty form of P. floribunda, of pale creamy yellow tint—P. flor. isabellina—is quite as free flowering as the typical species. P. obconica occupies a large space, looking as innocent as can be in its modest lilac colouring. The Kew strain, due to most careful selection, is a remarkably fine one, scarcely to be recognised, indeed, as identical with the type, but it still asserts its wicked propensities on occasion. Two long-lasting plants of more shrubby character may be referred to again. Centropogon Lucyanus, with tubular flowers of soft carmine-rose, and Coleus thyrsoideus, valuable for its bright blue spikes, both of which have been noted more fully, as especially decorative, in recent issues of THE GARDEN.

A stage of peculiar interest at one end of the house is filled for the most part with New Holland plants grown in small pots. Here we find Acacia obliqua, a charming miniature species, studded with its little golden balls, side by side with A. armata and others of the genus. Chorozemas, too, much alike in their queer orange and crimson Pea flowers and Holly-like leaves, but of different habit and with distinct names. Small specimens of Eriostemon cuspidatum are covered with their pretty white bloom, comforting to the heart of the ambitious amateur who has but limited space. Grevillea thelemanniana, which has been charming all the winter, still hangs some of its jewel-like pedants from the tips of its grey-leaved branches. Many other plants are here that are not commonly met with and that deserve study, and these, in some cases, may be compared with other specimens of the same shrub planted out in the central borders, an object-lesson of great value to the grower. These borders are in themselves full of interest, but space fails to tell of all the treasures growing in them, or of the roof and pillars with their many climbers, some of which, like Clianthus puniceus, Habrothammus, and the lovely Hibbertia dentata are now in flower. But visit the greenhouse range when you will there is always something new—for, like a kaleidoscope, there is no end to its infinite changefulness.

MISCELLANEOUS.

AN INTERNATIONAL HORTICULTURAL EXHIBITION.

PUT to the President of the Royal Horticultural Society at the recent general meeting of the Fellows a question with respect to the holding by the society of a great international flower show in London as a fitting celebration of the society's centenary in 1904, but the reply was not at all encouraging. Yet it is difficult to believe that such a method of celebrating the 100th anniversary of the birth of the society would not be immensely popular, and present a means of arousing interest in the society's welfare and in horticulture generally such as no hall, however fine, or garden, however extensive, could be expected to create. When it is remembered that the great international show of 1866—no less than thirty-six years ago—was a great financial success after being open two weeks, and that no less a sum than £3,000 profit resulted, it cannot be assumed that an analogous exhibition two years

hence would not attract a vast body of visitors and prove to be a great pecuniary success. Great as was that show, it could be vastly outshone in extent and beauty as well as interest to-day, and most certainly easily so two years hence. For were it known that such a magnificent show would be held—one of unexampled extent and beauty—growers would at once begin to prepare plants, and the finest display the world can produce would be seen. But there is more to be said in favour of the proposal, and that specially is found in the international character of horticulture. How would a mere hall or garden appeal to the horticulturist of the Continent or of our Colonies, or of the United States of America? Certainly, not at all.

But to them a grand show would be an immense attraction. It would be the very thing of all others to bring them here from all parts of the globe. Has not the Royal Horticultural Society long since recognised the cosmopolitan character of horticulture by having corresponding members all the world over? Does not the British nurseryman and seedsman correspond and trade with horticulturists universally? And is there not in horticulture the most complete evidence of the universal brotherhood of gardeners? Why, then, not attract them to London two years hence? Is it possible to conceive the society better employed than in seeking to bring about such a great reunion? Are not British horticulturists universally welcomed and entertained when they go abroad? Why, then, not for once have a great congress of the world's horticulturists here? When it is said that the provision of a hall in London will be a fitting centenary celebration, it must not be forgotten that in such way the providing of what is so generally recognised as a great need is thus postponed for two years longer. Why should that be so, if, as we were told at the annual meeting, a site for a new hall was practically selected, and only needed the consent of the Fellows for its purchase? If that be so, is the site to remain unused and unproductive for two years? Surely, if it can be had so soon as is suggested, the hall might be erected and open for use by next winter. If, on the other hand, the site should not be secured, the chance of getting one at all seems remote, and even the hall may not prove to be a means of celebrating the centenary. What a humiliation will it be to us all if nothing should be done to create a fitting celebration. It is now known that the council can legally both purchase land and build. That is so far acknowledged. It is also known that the committee seeking for a site is officially appointed by the council. How the cost of site and building is to be met no information is afforded, but it is certain a big sum of money will be required. Without doubt the provision of such a hall is a great and an uncertain venture.

A. DEAN.

OBITUARY.

DR. CHARLES STUART

THE daily papers of the 14th inst. announced the death of this popular and enthusiastic northern florist, at Chirnside, Berwickshire. The date of his death and his age were not stated, but as it is on record that as far back as 1846 he and Mr. James Dobbie were competitors at a Pansy show held at Berwick-on-Tweed in that year, Dr. Stuart must have reached an advanced age. He was both an ardent naturalist and an enthusiastic florist. It is to him we owe *Aquilegia Stuarti*, which fittingly hands his name down to posterity. It is a dwarf-growing blue-flowered hybrid, which is, unfortunately, somewhat difficult to cultivate. Other hardy flowers were also cultivated by him, and he laboured zealously to improve some of them. But his name is mainly associated with the creation of a distinct race of bedding Pansies. It was in 1874 that he commenced that series of experiments which were to produce such valuable additions to our hardy Violas. He commenced by crossing *Viola cornuta*, which was then being much employed as a bedding plant, with the pollen

of Blue King Pansy, at that time a very popular bedding variety. He secured one pod of seed which produced a dozen plants, and they all bloomed of a blue colour. A pink garden Pansy was crossed on to these, but only with limited success. There was certainly the gain of more variety of colour, and the close tufted habit of growth was maintained. Several of these seedlings were sent to the Royal Horticultural Society's gardens to be tested, and Dr. Stuart invited others who were engaged in a similar work to send their seedlings also, and a considerable number were planted out. Dr. Stuart records that in 1875 he was awarded six first-class certificates for his seedlings, though the annals of the Royal Horticultural Society's record but one only—viz., Williams—but three in 1876, Hillside Beauty, Lady S. G. Suttie, and Ormiston. Dr. Stuart states: "A floral ally, seeing one of these certificated plants, a fine white self, remarked, 'If you could only get that flower without rays in the centre I think you would find it to be a great improvement.'" But it was ten years before Dr. Stuart found in one of his seed-beds the variety subsequently named *Violetta*, the first of a race of rayless Violas, a pure white self. "The plant was then and there pulled to pieces, and every bit propagated. It was a warm summer's night, and the perfume from the blooms at once attracted my attention. The next season I had a little plantation of the rayless self and a wealth of bloom." One of the distinguishing features of *Violetta* is its perfume, approaching that of *Viola odorata*. *Violetta* proved in Dr. Stuart's hands the mother of thousands of a rayless race. A cross between *Violetta* and a white self gave *Sylvia*; *Sylvia* crossed with a Peacock Pansy gave *Border Witch*. Other prominent varieties raised at Chirnside were *Bridal Wreath*, *Blush Queen*, *Florizel*, *Rosea pallida*, and others of value some years ago. When on a tour in Ireland Dr. Stuart found in Connemara a new species of Heath, which the Botanical Society of Edinburgh named in his honour *Erica tetralix Stuarti*. R. D.

[Volume XLV. of THE GARDEN was dedicated to Dr. Stuart.—Eds.]

MRS. JAMES MARTIN.

WE are sorry to hear of the death, at Carnarvon Road, Reading, of Mrs. James Martin, wife of the late Mr. James Martin, so well known at the London Road nurseries of Messrs. Sutton and Sons.

The Rev. H. D'ombrain and the National Rose Society.—Mr. Edward Mawley writes:—"We regret to announce that the Rev. H. Honeywood D'ombrain, the original founder of the National Rose Society, and for more than a quarter of a century its senior secretary, has been compelled through ill-health to resign the secretaryship of that society. The announcement of this decision was received with much regret and sympathy by all present at the committee meeting on Tuesday, the 11th inst.

Royal Horticultural Society.—The next fruit and flower show of the Royal Horticultural Society will be held on Tuesday next, in the Drill Hall, Buckingham Gate, Westminster, 1-4 p.m. A lecture on "The use and value of Nicotine in Horticulture" will be given by Mr. G. E. Williams at three o'clock. At the annual general meeting of the Royal Horticultural Society held on Tuesday, February 11, sixty new Fellows were elected, amongst them being Lady Boston, Colonel J. Heap, George H. Baxter, F.Z.S., and the Rev. H. M. Wells, M.A., making a total of 183 elected since the beginning of the present year. *Examination in horticulture.*—Candidates wishing to sit for the Royal Horticultural Society's examination in horticulture on Wednesday, April 23, are requested to send in their names, with that of their supervisor, as early as possible. Entry forms may be obtained on application to the secretary Royal Horticultural Society, 117, Victoria Street, London, S.W. Applicants should enclose a stamp. The society will also in future continue to hold its examination in April and not in February as was at one time intended.

National Auricula and Primula Society.—The twenty-sixth annual exhibition of this society will be held in the Drill Hall, Buckingham Gate, Westminster, under the auspices of the Royal Horticultural Society, on Tuesday, April 22.

Royal Gardeners' Orphan Fund.—It is with the liveliest satisfaction that the committee makes the announcement that Leopold de Rothschild, Esq., has most kindly consented to preside at the next festival, which will take place at the Hotel Cecil on Thursday, May 8, and they trust that all friends of the charity will assist them in making the presidency of this princely patron of horticulture in Coronation year a memorable one in the annals of the fund.

Midland Carnation and Picotee Society.—Mr. Robert Sydenham has undertaken the management of this society, as Mr. R. C. Cartwright finds himself unable to continue the work, on the understanding that Mr. Parton, jun., of King's Heath, Birmingham, will take over the management for 1903. Mr. Sydenham appeals to all those interested in these lovely flowers to persuade others to become members of the society.

Garden Notes for the Colonies and Abroad.—We have received the sixth edition of this useful publication, issued by Messrs. Carter and Co., seedsmen, High Holborn. A short description of many countries in all parts of the world is given, with special reference to soils, climate, &c. Vegetables and flowers for abroad are amongst other items of interest.

Canterbury Rose Show.—It was decided at the annual meeting on the 15th inst. that the date of the above show shall be Monday, June 30.—E. G. STEAD, Hon. Sec.

Mr. T. W. Sanders, F.L.S., has recently been elected an honorary Fellow of the Linnean Society. He has for many years been closely identified with horticulture generally, and has by perseverance and zeal risen to his present position. After a period of some twenty years of practical experience in the garden, he became in 1887 editor of *Amateur Gardening*, and as recently as 1899 editor of the *Profitable Farm and Garden*, while early in the present month he was re-elected for the tenth consecutive time president of the National Amateur Gardeners' Association.

Woodbridge Horticultural Society.—This famous society will hold its annual show on July 10 next. Mr. J. Andrews, Gordon House, Cumberland Street, Woodbridge, is the honorary secretary. Last year's exhibition (Jubilee) will be remembered as one of the finest displays of 1901.

Irish Gardeners' Association.—In the presence of a large and representative audience of horticulturists the ordinary monthly meeting of the above society took place recently. Mr. F. W. Burbidge, M.A., the president, read an address on "Gardeners and their Employers." Mr. Burbidge concluded his interesting remarks by giving it as his opinion that "the revival of village industries and the cheapening of railway and other transit charges for raw materials and finished products might not only relieve the congestion of half the totally unemployed labourers in our towns, but it would restrict the exodus from this beautiful and fertile land of the best and strongest of the population, who at present become down-hearted, and leave us in desperation for the United States of America or for other and often far less hospitable and kindly shores."

A new Sugar Bean.—We do not find that either the Sugar or the Butter Beans are at all liked as a general rule. Sometimes a visitor would fancy them, but the rule was that they left the table uneaten, and we discontinued growing them. The "sliced stringy Beans one often sees in restaurants" are nothing to judge by. Sugar Beans with the same treatment and cooking would be much worse, if such a thing is possible. We know many who have tried these, but at the present time do not know one who thinks them worth growing. They are no doubt better than nothing, and that is about the best we can say for them.—F. F.

THE GARDEN

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[MARCH 1, 1902.]

ANNUAL FLOWERS.

AT this season of seed sowing the following notes from one of our best flower gardeners are interesting:—
“It would be quite possible to have a beautiful summer flower garden without the aid of any stock of plants if one made a careful selection of the good things that can be annually raised from seed, starting early in the year with those that require early raising in heat to have them in a forward state for planting out, and following on with those that require little or no heat, and later with those that might be sown in the open air where they were intended to flower. Although we have long since regarded some choice annuals as altogether indispensable—as, for example, Stocks—yet as a class annuals have been unfairly tried. Some are fleeting, but the majority if grown in a proper way are quite as long-lasting, and some are far more useful than the average summer bedding plants. Grown as annuals often are upon poor hungry soil, and the contents of a packet of seed sown upon a little spot that would only suffice for one fully-developed plant, they can never be satisfactory nor have a chance to show their value. The overcrowding results in a stunted growth, premature flowering, and early death. But with proper culture we may strongly rely upon seed and seedling plants for all purposes and uses, from the noble and portly Castor-oil plant down to the brilliant little *Portulaca*, which upon suitable soil spreads out and covers the ground with a gorgeous carpet. If we would have plants of noble stature we can easily raise from seed such things as Castor-oil plants, *Wigandias*, *Solanums*, Hemp, Maize, *Lavatera*, *Melanthus*, Tobacco, *Acacia lophantha*, and others. These sown in heat early in the year can be had quite large enough for planting out when the season comes round. Moreover, they associate well with the lowlier types of flowering plants, many of which are our best annuals. Of these none are sweeter nor more valuable than Stocks, and so greatly have they been improved and so varied are the strains, that one is almost bewildered in attempting to choose from such variety. They start with the German Ten-week and follow on with the Intermediate and East Lothian forms, which, though considered biennials, can be treated as annuals, as if raised early in the year they follow on flowering after the Ten-week kinds, and thus keep up an unbroken succession. Certainly we have not yet fully

realised all that the Stocks are capable of, for although we find them in most gardens during a few weeks of each summer, it is rare to see them, though quite and easily possible to have them in perfection and succession for six months of the year. Asters, too, are good, but perhaps not quite so useful as Stocks, as they do not flower so continuously; still, in certain positions, a bed of good Asters, especially the tall purple *A. sinensis*, forms a charming feature. The Sweet Scabious, Sweet Sultan, Cornflower, but of this last the old blue form is as yet far superior to most of the so-called improved forms, many of which are dull and dirty in colour; the annual *Chrysanthemums* and Sweet Peas should be found in every garden. We are now able to obtain seed of many plants which we formerly used to preserve through the winter, such things as *Lobelias*, *Ageratums*, *Verbenas*, &c., and the advantage of this is great, if only for the sake of the healthier growth characteristic of plants from seed. Of course, special varieties cannot be trusted to come absolutely true, but good selections give a large percentage. In the case of *Verbenas* it is possible to obtain seed in separate colours, such as the red, white, and purple. These come very true, and they have a vigour almost unknown in the old type of over-propagated and often diseased bedding *Verbenas*.”

THE SUBURBAN GARDEN.

“Not wholly in the busy world nor quite
Beyond it, blooms the garden that I love.
News from the humming city comes to it,
In sound of funeral or of marriage bells.”

“WHAT are the suburbs? I never come across them,” said a “smart” young lady from Mayfair. Now this was foolish, for it is impossible to either enter or leave London without passing through its suburbs, and having an excellent opportunity of viewing the suburban garden in all its squalor, pathos, and beauty. Gardens on the outskirts of any large town are many-sided, and they play so large a part in the social life of to-day that they are worth a moment's thought.

Suburban; the very word has something about it which to many people is like a red rag to a bull; even to mention it seems enough to set anybody against anything. But why? “It is so half and half,” that is what people say; “do let us have one thing or the other, either real country or real town, not an unsatisfactory mixture of both.” Suburban gardens come in for an even larger share of plain speaking than suburban houses—an extraordinary number of faults are found with them. “They are never made the most of,” “they are vulgar,” “they are neglected, ill-

planted, and generally disappointing.” The first time I ever heard a good word for the suburban garden was at a table d'hôte in Germany, where a very intelligent Swiss lady, who had spent the spring and early summer in England, said the thing that had struck her most was the small gardens about the environs of London. Her favourite amusement was to take a carriage and drive out in any direction, it mattered not which, it was always the same. Pretty flowering trees, Almond, Acacia, Guelder Rose, Lilac, Syringa, Laburnum, double Hawthorn, and a host of others, with handsome shrubs and charming beds and window boxes full of flowers, both gay and scented, all these she was sure to find on either hand and in front of every little house. Here was a surprise! Was this, indeed, to see ourselves as others see us?

On returning to England I did my best to view everything I met, with unprejudiced eyes, and came to the conclusion there was much to be said even for the gardens of the suburbs. Indeed, I doubt whether the same amount of pleasure is got out of any part of the King's dominions as is found in these despised plots and patches. Let us think who they belong to. For the most part to the toilers and moilers in life's army—our merchants, lawyers, stock brokers, clerks, and all sorts and kinds of people who occupy their business in the deep waters of London. Imagine what gardens are to such as these; what it must be to leave the heat and worry of town, say at four o'clock on a summer's afternoon, and by five or half-past to be sitting under shady trees, green grass beneath their feet, and the scent of Jasmine and Roses in the air. Even for the poor man to whom a garden means work, it is a change of work, and that is the best way of resting.

Suburban gardens are of many kinds; there are all manner of notes in the scale. The squalid ones—alas! some *are* squalid—are most familiar to the district visitor or may be seen from railway carriage windows. They often belong to houses filled with many different families and are a kind of no man's land. Hardly can they be called gardens. There are sometimes a few stunted Cabbages in them, often a rabbit-hutch, invariably a summer-house (pathetic sight! What poor man's garden is ever without its summer-house?), a dilapidated fowl or two, sometimes happily some Scarlet Runners, and occasionally, oh joy! a tree, a beautiful spreading tree like a green-winged angel. Then there are the tidy patches of the fairly well-to-do workman, some made hideous by erections of shells and grottoes, others filled with useful and pretty plants. So we go upwards, step by step, to the good-sized strip or more ambitious villa garden. Wonders are done in these. Many a busy city man knows all about Roses, and could give lessons in Grape growing and Orchid forcing to his relations in the real country.

Country gardens have the best chances, of

course, but there are one or two points about suburban gardens that may be envied. One is the birds. It is not that there are more of them, but those there are, are such a pleasure. When a new bird of a rarer kind than ordinary is coaxed into the precincts of one's own domain, what an exciting moment; a garden warbler, or a tree creeper, or a fly-catcher. What friendly traps are laid for them in the way of food and water and material for building. And wild flowers; when unfamiliar seedlings come up, either wind blown or bird sown, here is another joy. Few people in real country gardens know every leaf and blade by heart as do the owners of the small suburban garden, so carefully watched, so tenderly made the most of.

There is many a quaint touch, too, about these gardens of the suburbs. They are often, like blouses and children's frocks after sale time, made of remnants. Some large old holding is cut up into blocks. Block A gets bits of orchard; Block B a piece of garden ground with Roses and blossoming trees, Block C may have nothing but Briars and Blackberries, or in another place a stately avenue has been cut down for building and some magnificent Elm or Oak or Cedar has been spared, and is stranded, a forlorn-looking prisoner in the back garden of some modern villa. Well, he is a blessing to somebody; little children may still play about under his sheltering arms, where the rooks yet cling to their old haunts, croaking cheerfully as ever.

Nor is it wholly unpleasing to have a garden near the busy haunts of men; the roar and rattle of the streets sounding like the far-off humming of bees, the strange glow of lights in the distance, the pealing of bells and the striking of innumerable clocks, the thunder and whistle of trains that link us with friends far off, the stir and throb of human life, that chimes in, not inharmoniously, with the calmer life of nature. All these things combine in making up the unexpressed enjoyments of the dwellers in gardens that lie close to the heart of towns. Should these words by chance be read by any who are hesitating between life in a London flat, where there is no getting out without gloves, hat, and all the paraphernalia of the street, or living in a small house with a small garden not far from town, let them pause, and not be frightened by the suburban bogey. In spite of all its drawbacks, its awkward shape, its insignificant size, its smokiness and too great publicity, there are flickers of enjoyment to be had even in that much-maligned spot, the suburban garden

F. A. B.

EDITORS' TABLE.

THE SNAKE'S HEAD IRIS.

Mr. Fitzherbert sends from Kingswear, South Devon, flowers of this beautiful quietly coloured Iris. Mr. Fitzherbert writes: "I send you flowers of the Snake's Head Iris (*I. tuberosa*), of which a number are out in this garden. The flower, with its satin-black falls, is quaint rather than beautiful, but has a pleasing perfume. It is, I believe, a native of the Levant, but grows wild in some parts of South Devon. It does not usually bloom as early as February."

CHRYSANTHEMUM MATTHEW HODGSON.

Anyone desirous of having a really good deep-coloured Chrysanthemum for decoration during January and February should not fail to grow the above in bush form. Among a large number of varieties cultivated for supplying cut flowers for the new year this proved to be the latest, and being of a very pleasing shade has been most

valuable. We have several plants at this date (February 20) just at their best, and I am enclosing a few flowers for you to see.—E. BECKETT, *The Gardens, Aldenham House, Elstree.*

A very beautiful variety of a wonderfully bright chestnut red, with bronzy yellow reverse to the florets. It is the brightest of its colour we know.

LENTEN HELLEBORES.

In gardening circles much comment has been raised by Mr. Perry's summary manner of disposing of that beautiful race of plants, the Oriental Hellebores and their hybrids. It is scarcely possible that he can be aware to what beauty they attain in many gardens, only to mention two instances, notably Coombeishacre and Edge Hall. I know of nothing more beautiful at this season in our gardens, whilst for gathering they are invaluable, and a little care will keep them fresh in water and in full beauty for several days. The plants can be readily obtained, and to grow them successfully is well within the scope of all who garden. Surely, therefore, they are worthy of a good place in our gardens.—E. WILLMOTT, *Warley Place.*

I was glad to see on page 102 letters from Mr. T. H. Archer-Hind and Mr. Greenwood Pim referring to Mr. Amos Perry's remarks that Lenten Roses are "no good for cutting." As a matter of fact they are most useful flowers for indoor decoration, coming at a time of the year when blossoms from the open air are all too rare and remaining fresh, as your correspondents state, for ten days or more after being placed in water if the precaution has been taken of slitting the stalks before immersing them. In proof of this I send herewith a picture of a vase of Lenten Hellebores that, owing to an accident to the camera, could not be photographed until a week after they were cut; but in spite of this delay they appear quite fresh. The stalks of these flowers were slit up into four portions to a length of about 4 inches. Many other flowers besides Hellebores are benefited by slitting up the stalks before placing them in water. Some years ago I brought a few sprays of a perennial Aster a long distance by hand, and when I arrived at home their petals were limp and drooping. Cutting off the bases of the stems I placed them in water, but the following morning they presented the same dejected appearance. As a last resource I removed them, slit up the stems as before-mentioned and replaced them in the water, and was rewarded by their gradually regaining their freshness and remaining in beauty for many days.—S. W. FITZHERBERT.

With reference to the notes appearing on page 102 of THE GARDEN, respecting Helleborus orientalis, allow me to make a few remarks. The remark that the Oriental Christmas Roses "are no good for cutting and never will be" is perhaps somewhat misleading. An injustice has apparently been done to this important class of spring flowering plants. But you must bear in mind that this paper was intended solely to be read before the Horticultural Club, which is not merely an amateur's club, and I spoke from a nurseryman's point of view. To cut flowers fresh from the garden and to place them directly in water is one thing, whilst to cut and pack them in boxes and baskets for market is another; and that is simply the difference between what was meant by my statement and the opinions of the two gentlemen who have championed the cause of the Lenten Rose. I do not wish it to be thought that I meant to disparage the value of this most beautiful and useful group, invaluable as they are at this season of the year, especially when seen under such favourable conditions as are to be found in Devon, Dublin, and other favoured spots. Now, as far as improvement is concerned, there is much to be desired—and, I think, accomplished—especially in the arrangement of the flowers; but not so much in colour, to which my remarks applied. Neither do I consider there is a much greater range of

colour to be obtained than we already have. I was much impressed by the Hellebores last month (January) in Trinity College Gardens, Dublin; they were everywhere flowering beautifully, and amongst them were some with a decided tendency to look up—some of the flowers were actually at right angles with the stems, so that the flowers could be examined without the necessity of turning each one up. In this direction great improvement can be made. If everyone who is interested in this family will bear this in mind when selecting seed, and try to obtain varieties with this upward tendency, it will do a great deal to make the family more popular than they are at present and of much greater value for decoration. Now, with regard to the Delphinium I would rather have said nothing. I do not like the colour, and never did; but I am only one. It is a marvellous break, and I feel sure there are far better things to come.—AMOS PERRY.

Allow me to join with Mr. Archer-Hind and Mr. Greenwood Pim in giving testimony to the value of the Lenten Roses as cut flowers, and with the former in praising the improvement effected in these plants. As they say, the Lenten Roses will last in water for a long time if the stalks are split up. This is not necessary if the blooms are to be kept for a few days only and the flowers are thoroughly immersed in water for a couple of hours after being cut. Last spring Mr. Archer-Hind kindly sent me cut flowers of the charming varieties he has raised. The colours of many of these were most beautiful and showed how capable the Hellebore is of improvement still. These flowers, after a journey which took about two days, came as fresh as if newly cut, and they were almost all fit to be seen after being in water for quite a fortnight. In addition to having the stalks split, the bowls with the flowers were put into an unheated room at night. We must all thank Mr. Perry for the way in which he treated his subject (the improvement of hardy flowers). No one is better able to do it.—S. ARNOTT.

NOTES OF THE WEEK.

Garden labels.—Woods' label is a useful one, but too much in the botanic garden style for the flower garden. The flat ones are not of much use, as they get pushed into the ground or else worked out. In writing the name a pencil does well with a slight smear of fresh paint. But it is for the kitchen garden alone that a metal label is suitable. As to wood labels, 10 inches long and 1½ inches broad is about the right thing. They should be home-made so as to ensure suitable wood and a good thickness. Some years ago I had samples of Boxwood labels sent by some Midland firm whose name I cannot remember. These struck me as useful. How about the Australian Jarrah wood? This would be worth trying. Then as to a pencil; this might be improved I expect so as to get a very durable mark. The price is of no great consequence, so that the manufacturer would find it answer his purpose. A running water tap and a scrub bush would soon test its qualities.—E. FISON.

Lotus peltorrhyncus.—Attention is drawn to this handsome flowering plant on page 103 by Mr. Greenwood Pim, who suggests that it would probably be hardy on a dry sunny rockery. As far as I know it will not stand the winter in the open in such positions, even in the south-west, but it is one of those subjects that well repays a winter's culture under glass and planting out in the rockery in the spring. I have seen it treated in this manner in a well-known South Devon rock garden with the happiest result, the effect of the hanging, grey-green, narrow-leaved foliage, set with numerous large bright flowers, whose colour I should style crimson rather than "Indian red"—a term that to my mind more accurately describes the tint of the blossoms of *Tropeolum pentaphyllum*—being particularly striking. In this case several specimens were planted at different elevations in the rock

garden and hung their flower-studded trails of leafage over stony ledges for a height of many feet.—S. W. FITZGERBERT, *South Devon*.

Cypripedium Morganæ.—This *Cypripedium*, as stated on page 75, is very shy-flowering, and various means have been resorted to, in order to overcome the difficulty. The most successful of those that have come under my notice is when the growth is made up to remove the plant to a cool, light house, and give little water. This treatment does not improve the foliage, but it often leads to flowers. As soon as the flower-buds are visible remove the plant from its cool quarters into a warmer structure, and give an increased quantity of water.—H. P.

A new Vegetable Marrow.—The season for sowing the above vegetable will soon be here, and those who can give the plants frame culture will find the new Sutton's Perfection a most valuable introduction, as it is specially good for frame culture or for earliest supplies in the open if given a little protection at planting time. The new Perfection is the most prolific variety I have grown, and, though not large, is of excellent flavour. Large Marrows are a mistake in a private garden. Such varieties as the new Perfection and the older Pen-y-Byd should be cooked whole when quite young. The new variety is not unlike a Melon in shape, and the skin is dark green with pale stripes, a very pretty fruit, and of great value for exhibition. It crops with great profusion. As the plants are of compact habit they are the more valuable for frames or early supplies.—G. WYTHES.

Storage for fruit.—The Herefordshire Fruit Growers' Association is considering the question of providing storage for fruit at Hereford. Mr. C. W. Radcliffe Cooke is the moving spirit in the matter. Cold storage should, it goes without saying, be provided for to ensure the success of any scheme. The association has now upwards of 260 members.—*Cold Storage*.

Viola Blue Bell.—Some few years ago when I grew Violas and Pansies somewhat extensively for summer bedding, &c., the variety Blue Bell was a great favourite; in fact, I had no variety that resisted mildew and stood the drought better. Our soil was light and not of the best for growing these flowers well, but with deep cultivation, early planting, and plenty of manure well mixed in I managed to grow Blue Bell very satisfactorily. I have repeatedly tried placing a very heavy layer of manure at the bottom of the beds at a good depth from the surface and then a second layer about 6 inches deep, but this plan failed. The manure in hot, dry weather became somewhat baked, and unless plenty of water was given to the plants mildew was more prevalent than was the case when the rotten manure and soil were thoroughly mixed together as previously mentioned. Another good and useful Viola, although the constitution was not equal to Blue Bell, was a variety named Yellow Boy. These two I grew very extensively, and at that time I had none better for bedding purposes. Needless to say, large beds filled with Violas make a very effective show when in full bloom.—H. MARKHAM, *Wrotham Park*.

Weather and crops.—An interesting article appears in the *West Sussex County Times* under the above heading written by Mr. A. Kemp, Coolhurst Gardens. The subject is carefully dealt with, and much sound information given. We notice the following remarks: "There is one fact that should never be lost sight of, and a very convincing one too, and that is that all growth has most moisture at root and branch when it is completely at rest—deciduous trees as well as evergreen—so that this fully justifies the watering of fruit trees of every kind freely in winter when root action is dormant."

Aquilegias.—These flowers have become very popular of late years, and are much valued for table decoration and epergnes on account of their graceful beauty. I consider *A. Chrysantha* one of the most useful varieties. It is very hardy, succeeding as well on a north border as on a sunny border, and producing its delicate yellow flowers in great profusion. Moreover, the flowers being

borne on long, stout stems are admirably adapted for cutting; arranged in vases with a little of the foliage they present a charming appearance. I find the choice hybrid varieties rather tender; they require a fairly sunny position and warm, open soil, also plenty of moisture. It is a mistake to raise them in too much heat. A temperature of 55° is sufficient, March being the best time for sowing. Light loam and leafy soil form the best compost, which should be pressed firmly into a pan or box, and the seed sown thinly. As soon as the seedlings are established, after being pricked out from the seed pan, remove them to a frame, and gradually harden them off, finally planting them out at the end of May. If obtainable, dig a liberal quantity of leaf-mould into the soil, in addition to some well-decayed horse or cow manure, and mulch the plants with the same material or spent Mushroom manure to prevent undue evaporation.—C.

Roses covering roots of trees.—I am sorry to see no reference in the note in *THE GARDEN*, page 119, to the old climbing China Rose, an old favourite of mine, of which I have pleasing recollections years ago in old-fashioned gardens in Essex, not twelve miles from London.—P. CLEMENTI-SMITH, *St. Andrew's Rectory, Doctors' Commons, E.C.*

Butter Beans.—I am also sorry to see the depreciatory remarks, page 132, regarding Canadian Butter Beans, the best *Bean grown*, though, unfortunately, looked down upon by some housewives because it is yellow (or golden) coloured, and not green. If people would only overcome this prejudice as to colour they would soon learn to value this excellent, delicately-flavoured Bean, which I soon learned to appreciate during a four years' sojourn in Canada, and have introduced by making small presents of seeds to many of my friends in this country.—P. CLEMENTI-SMITH, *Doctors' Commons, E.C.*

Choisya ternata in pots.—A batch of the Mexican Orange flower in pots will make some interesting little groups for the greenhouse through the dull days, for it is an attractive plant both in the way of flower and foliage, and very slight warmth is sufficient to develop the flowers. The *Choisya* was treated when first introduced practically as a stove plant, and gradually inured to lower temperatures until it became a choice shrub for outdoor planting, at least in many parts of England. My object in calling attention to it at the present time is to suggest that where a stock in pots is not on hand, and there are several plants out of doors, it will be advisable to put down some layers, as flowering stuff for indoors is more expeditiously obtained in this way than from cuttings. Mix up a compost for layering of equal parts loam and leaf soil, with a good sprinkling of sand, and having loosened the ground, put some 3 inches of prepared soil on the surface, and select pieces about a foot long with nice bushy tops, tongue slit carefully, and peg down firmly. After treatment simply consists in keeping the soil moist about the layers, and they can be severed and potted up as soon as they are well rooted.—E. BURRELL.

Rhamnus Alaternus variegatus (Silver-leaved Buckthorn).—The silver-edged Buckthorn is an excellent wall plant, the variegation being clear, broad, and well defined. It is a good companion for things like the scarlet *Cydonia*, Waltham climber Roses, or those of similar colour, and I should strongly advise its inclusion in any planting to cover walls. It is by no means particular as to soil; indeed, I fancy the variegation is more pronounced on rather poor, light ground. Our plant covers some 250 square feet of wall. Young plants can be quickly obtained from layers which may be pegged into a compost of sandy loam and leaf soil in equal parts.—E. B., *Claremont*.

Calcutta Rose show.—In some respects the Rose show organised by the Agri-Horticultural Society of India, and which was held at the society's gardens at Alipore on January 31, was a trifle disappointing; we refer to the small number of exhibits, and the absence of that keen, healthy competition which we are accustomed to associate with such functions. This is not easily accounted for, especially as the number and value of the

prizes offered were well worth competing for. The competition was confined to nine exhibitors, all natives. There was not a single European competitor, a fact which is eloquent of the apathy of our own community in a function so purely European as a Rose show. Under such depressing conditions is gardening carried on in the capital of India! The native competitors deserve every encouragement, and all praise is due to them for their enterprise which enabled the show to be held at all. It is no fault of the Agri-Horticultural Society of India that there were so few competitors. The society did all that was possible to make the show a success by providing attractive prizes and making all the necessary arrangements, for which the thanks of the public are due to the committee. The attendance of ladies and gentlemen was large, and all seemed to enjoy the floral treat provided. Much admiration was expressed for the exhibits that were staged.—*Indian Gardening and Planting*.

Naming exhibits.—In the schedule of the Shropshire Horticultural Society we notice the following commendable remarks: "The committee specially request that as far as possible all exhibits shall be named. They know this will entail trouble to the exhibitor; it will, however, be well repaid by the advantage gained to horticulture and the pleasure and instruction such naming will give to the visitors who attend the spring and summer shows."

Early Beet Crimson Ball.—Some vegetables and salads are so much better than others that they are worth special note on that account, and for earliness Carter's Crimson Ball Beetroot is certainly worthy of mention. Those who have found the old Egyptian Turnip-rooted Beet poor both in flavour and colour would do well to give Crimson Ball a trial; it is of better colour and finer quality. I have grown it both under glass and in the open for early salads, and though Beet is not often forced few plants do better; indeed, it may be grown in pots from the start. When seed is sown under glass and the seedlings planted out it is ready for table in May, and if sown on a warm border in the open there will be very early roots. For shallow soils, where the long roots are not a success, make a sowing in March and again in May. Sown thus the roots will keep long, but later sowings may be made if desired.—W.

Early Potato Ninety-fold.—Few Potatoes have been introduced during the past few years so meritorious as Ninety-fold. This new variety with me, both in the north and south, is our heaviest cropper, and this, combined with earliness, makes it most valuable. For many years the Ashleafs were the only early Potatoes grown in any quantity, but the hybrids that Messrs. Sutton have given us crop so freely and are so dwarf in growth that they show a great advance on the older kinds. With regard to flavour the Ashleaf is difficult to beat, but the crop is not so large as from the newer varieties. Ninety-fold is one of the best; the haulm is erect, and though dwarf is very strong, and what is better it is the earliest variety to mature. Last year we lifted the tubers the last week in May on a sheltered border, and very few sets are not usable. The flesh is white and the tubers large for an early variety, and when cooked are of splendid quality.—G. W. S.

Manettia bicolor.—The ever-increasing demand for cut flowers renders it imperative that plants to furnish the same should be largely grown both in the open border and under glass. At the same time, I am afraid there is a tendency to neglect other things beautiful in themselves, but of little use for cutting. These remarks apply to the stove climber named. It produces only small flowers, but the two shades of colour are pure, clear, and sharply defined. The duration of bloom is well maintained, and when the long, trailing shoots are well clothed with flower it is a very striking plant. Although included in stove climbers, it may be grown in an intermediate house where the night temperature is seldom below 45° and is of easy culture, a compost of loam, leaf-soil, and silver sand, with a dash of peat, doing it well.—E. BURRELL.



THE COLD ALPINE HOUSE AT KEW (FEBRUARY 13, 1902).

A stage "garden."—Writing of a new play called "Memory's Garden," the *Times* says: "To be sure, one of the scenes passes in a garden, a remarkable garden, which must be the envy of the average English horticulturist, inasmuch as it produces the Rose and the Laburnum together in full bloom on May Day."

Salsafy as a winter vegetable.—This vegetable is so easily grown that any cultural details may be out of place, but I would point out the value of Salsafy for the winter season, as the choice of vegetables is restricted when hard frosts occur. To get the best results, however, good culture is needful. I prefer April sowings. Give the plants ample room and dig the land deeply. It should have been well enriched for a previous crop, as then the roots do not fork badly. Salsafy is most valuable for the midwinter supply. Owing to skilful cooking being necessary, Salsafy is not always a favourite in the kitchen, but there can be no question that any good vegetable is welcome for the sake of variety. The roots are frequently lifted in the early autumn, but it is better to leave them in the soil and protect them. Lift as required for use.—A. C. N.

THE ALPINE HOUSE AT KEW.

At this early season, and in spite of the severe spell of wintry weather recently experienced, there are several interesting and beautiful plants in flower in this house, which, though unheated, affords a slight protection from the unfavourable conditions generally prevailing out of doors at this time of year. The first to attract attention upon entering are some pans of

CYCLAMEN IBERICUM,

with an abundance of rosy purple flowers which have a dark blotch at the base of the recurved segments. The heart-shaped leaves of this species vary a great deal in the marbling of the upper surface, but usually have a faint light zone. A little later in flowering is

C. COUM,

which differs from the above in having its dark green round leaves unspotted. The buds

are in evidence long before the bright crimson flowers are fully expanded, the flower-stalk reclining on the surface of the soil until such time as the flower opens, when it slowly raises itself. These two charming plants are well suited for growing in pans, and well justify the shelter of a cold frame in winter by producing many more flowers than those planted outside. After completing their growth the corms should be thoroughly ripened off by exposing the pans to the sun. *Narcissus Bulbocodium* var. *monophylla*, with exquisite snowy white flowers, is a charming member of the section known as the Hooped Petticoat Daffodils. A native of Algiers, it requires protection in order to preserve the delicate flowers from injury.

SAXIFRAGA BURSERIANA VAR. MAJOR

is one of the earliest of our spring flowers to unfold its buds, and though not requiring shelter, it is only under glass that the flowers, which are unsurpassed by any other rockfoil, attain their full beauty. Of tufted habit, with glaucous foliage, above which the flowers are borne singly on slender red stalks, this is certainly a gem amongst alpine plants. The type has rather smaller flowers, and is later in coming into bloom. Another member of this genus is

S. APICULATA,

which is just opening its pale primrose buds. Of doubtful origin, this plant has been known by several names, amongst others being *S. luteo-purpurea*, *S. Malyi*, and *S. Frederici-Augusti*. It is of very easy culture, and one of the most beautiful and valuable of early-flowering plants; its tufts of dark green foliage are surmounted by a profusion of primrose-yellow flowers, borne on branched stems 2 inches or 3 inches high.

SCOLIOPUS BIGELOVII

is an interesting bulbous plant from California. The mottled leaves are in appearance similar to the *Erythronium*, whilst the flowers are borne singly on stems, several of which

are produced by each bulb. The colour of the rather unpleasantly-scented flower is brown with chocolate markings. It is not a showy plant by any means, but is well worth a place on account of its earliness and singular appearance.

ERANTHIS CILICICA

is similar to the well-known Winter Aconite; it differs chiefly by the more divided leaf frill. *Leontice Alberti* is a member of the Barberry family from Turkestan; its large, depressed rootstock resembles the corm of a *Cyclamen*. The much-divided foliage is glaucous, and the clusters of drooping yellow flowers are tinged with a reddish brown.

PRIMULA NEGASEFFOLIA.

This recent addition to our spring-flowering plants from the Caucasus is a very welcome one. It has proved to be perfectly hardy, and is now pushing up its leaves and flowers in a fully exposed part of the rock garden. The plants in the house, however, are in full flower with several strong hairy scapes bearing umbels of crimson-purple flowers with an orange-yellow blotch at the base of each petal.

ADONIS AMURENSIS

is also an acquisition of recent years, and this charming plant is fast becoming a general favourite with its finely cut tripartite foliage and yellow flowers flushed with brown along the nerves of the under surface. Although not so large as the well-known *A. vernalis*, it blooms much earlier, a point decidedly in its favour. *Merendera caucasica* is an old inhabitant of our gardens, having been introduced from the Caucasus in 1823. It is closely allied to the *Colchicum*, and each corm produces three narrow diverging leaves and two to three delicate rose-coloured flowers tinged with purple.

HYACINTHUS AZUREUS.

This is beyond a doubt the most beautiful representative of hardy bulbs of the *Hyacinth* class in cultivation at the present time. It is perfectly hardy and of easy culture. Having the habit and appearance of a *Muscari* it is often found under the name of *Muscari azureus*, but the campanulate flowers proclaim it to be a true *Hyacinth*. The leaves are strap-shaped, glaucous, and deeply channelled, about six to a bulb; the dense conical flower heads are deep azure blue in colour on the lower part, the upper flowers being of a lighter shade. The *Iris* family is represented by *I. stenophylla*, or, as it is more generally called,

IRIS HELDREICHII,

and *I. Tauri*, two new species from the Taurus, closely allied to the better known *I. persica*. The former has been in flower on a south border since the third week in January. It bears a charming flower of good substance, lasting a considerable time in full beauty, the colour being bright blue-purple with dark velvety blotches on the fall. *I. Tauri* is rather later in opening its flowers than the above, and has flowers of a much deeper red-purple shade. With the well-known *Primula denticulata* and its white variety, the above are some of the more noteworthy plants, all grown in pots or pans, that make the alpine house at Kew so interesting during the winter months.

W. IRVING.

A DAY IN A JAMAICA GARDEN.

(Continued from page 125.)

BUT I must be getting back to the garden, which is a quarter of a mile away. What! the sun nearly in the south, when after the curls and twists of the little valley I get a good sight of it again. Impossible! Well, that is happiness when the time flies. A glance at Ledhu, who is tidying, trimming a green cut-leaved Lavender, a tiresome plant which falls down when it gets at all big, and I only cling to it because this flowers and the much more beautiful common one never does. "And Ledhu! look here, this Silver plant" (*Cineraria maritima*)—for so have we to recast the latitudes into something comprehensible—"see, white-white catch him." This "white-white" is a scurly scale which covers the stalks of certain plants as with a mat. This *Cineraria* always gets it at about two years old, and never looks healthy again. I keep a succession of seedlings from imported seed for it never seeds here.

Obadiah announces breakfast, which sends me for a towel and back to the bathing-place which is halfway to the Tamarind. Nearer one than twelve by the time I get back. How did the morning go? I must have been longer among the Roses than I thought. Yes, and there were some Zinnia beds down there that took time, for doubtful colours had to be pulled out and some of the plants were too crowded. And *Ipomœa Heavenly-blue* was out, the milk-white one twining with it and both at their best for flowers, and they are things that have their season. They must be looked at while you have them and that is not always, twice a year and only twice. And I did just run down to the pond to look at the great white Water Lilies before they closed against the sun, and the goldfish kept me a few minutes. They were playing about so prettily and running up to meet the inflowing water. And Dripping Rock could not be missed. It wants weeding. That Guinea Grass has no business on the face of the rock. And there were Loquats on the way up. They had to be sampled, and—in fact, there were several things done after getting the Roses and before picking the Violets. Oh, Garden, delightful thief of time! Continue to thrive. Willingly I give you all the hours you steal. Could I spend them better?

The thermometer is glanced at several times during the day to catch the hottest of it. That is 78° to-day. So it was yesterday. 72° at seven this morning, 78° at one o'clock. To-night at bed-time it will be halfway between these readings, 75°. It will fall to 70° perhaps in the course of the night. In January it may touch 63° at 7 a.m. That is the lowest I ever saw it in this the coldest month. In July, the hottest, I have twice seen it at 87° in the middle of the day, never more. A more careful record than usual has been kept this year and is being sent to THE GARDEN for publication. No words can do justice to this wonderful climate, but a few figures may. As I sit at breakfast with the summer air playing about me in this winter month I wonder that English people do not come and settle in this charming land. I believe I am the only person who lives in Jamaica for pleasure. Round me are thousands of acres to be bought for a song. One estate of 900 acres is offered for £500. It has no house, only the walls of an old one, but it has that most precious of all things, a constant and uncontaminated supply of running water. And what a place for a garden! If I were not already satisfied and more than satisfied that is the place I would have. It is surrounded by high hills up to 4,000 feet, yet lies open to the morning sun, sheltered from that of the afternoon. And this is only one place. Another with 100 acres and a really good house goes begging for £800. Nobody has got any money in this poor sugar-ruined

island. And the drawbacks. Not health, for it is the healthiest place in the world. No, the drawbacks are all comprised in one word, dull. I observe that when people are choosing a place to put a house, their first idea is how to get away from it. My idea, on the contrary, is whether I shall like to live in it. The Jamaica hills, it is true, are bad to get into and bad to get out of. Of driving roads there are next to none, in my own district, where the Blue Mountains and Port Royal Mountains join, none at all. Nothing but mule tracks. You must walk or ride. Assuredly a bad place to get away from. And no amusements. Neighbours are few and there is no sport. But to a gardener who for amusement is sufficient to himself, who does not want to go away, who enjoys the free life at home and an occasional ramble over the hills to see one or two good friends, the one word is not dull but Paradise.

Such are his thoughts as he sits at his breakfast with sharpened mountain appetite this fair November afternoon. Ledhu has come back from his breakfast and is rallying the Negro boys on a subject which never fails to amuse, contrasting his straight hair with their curly wool. We do not suffer from dignity and the jests go on under the master's nose. In free England the outdoor servants have to be mute as they approach the house, nature smothered by manners with its natural consequence of service rather sullen than joyous.

(To be continued.)

THE FERN GARDEN.

FERNS FOR SHADY GARDENS AND SUNLESS WINDOWS.

IN very many gardens of moderate extent there are places at the foot of walls facing north or east, or within the shadow of trees or masses of shrubs, which, owing to the paucity of sunshine, are unfitted for flowering plants, which consequently in such positions lose all attractiveness. In the dwelling-house, too, there are frequently windows of similar aspect, and in all these cases opportunities are afforded for the introduction of Ferns which Nature

has constructed on precisely the lines which fit such conditions, inasmuch as they are essentially shade-loving plants. That they do not furnish an annual crop of brightly tinted and conspicuous flowers is certainly a popular drawback, but it must not be forgotten that a very large percentage of plant beauty exists in the foliage, and hence in many conservatories we find that so-called foliage plants hold a high position, altogether irrespective of their flowers, which are frequently inconspicuous in proportion to the charm of the leaves. Nature, indeed, is chary of overloading her creations with attractive gifts, and just as she endows the sad-coated nightingale with heavenly melody, and the gorgeously plumaged peacock with a hideously strident scream, so she has balanced matters in the Fern world by imparting marvellous beauty to the fronds as a recompense for flowers which are practically microscopic. We may, indeed, ransack the flowering plants proper from the Equator to the Poles and fail entirely to find examples which in the delicacy and diversity of their foliage can compete even distantly with Ferns. Even where an approach is made to similarity of type, such as in some Palms and some Tree Ferns, no one can dispute that the latter are far and away more beautifully cut and of a more graceful habit than the former. What prospect can excel that afforded by one of our Devonian Ferny dells clad in all conceivable shades of verdure, and on closer inspection displaying a really marvellous diversity of frondage! Not a flower is visible, and yet what a "harvest for a quick eye" is thus afforded! Then glance at the glimpses of Antipodean Fern glens afforded by Miss North's wonderful pictures in the North gallery at Kew, or even by imported photographs, and it is at once abundantly evident that, given proper conditions of growth, the Ferns of the world need yield no jot of charm to their beautiful floral descendants. Nor is this all; for while these glimpses of Ferny Nature are marvellously beautiful as a whole, the more we examine into the material composing them, the more the intelligent observer must be struck by the delicacy of detail. Nature, however, is not content even with this, but just as at our grand horticultural shows we may behold hundreds, and even thousands, of gorgeous flowers which have been elaborated by human selection from comparative weeds, so in our best Fern collections we may behold innumerable types



COTTON TREES IN A JAMAICA GARDEN.

which are far more beautiful than the wild ones. Here, however, comes in an additional marvel with respect to Ferns, since most of these improved forms have been fashioned by Nature from the common material without man's aid at all, and many of them cannot even be regarded as the results of any selection whatever, since they have been found wild, usually as solitary specimens, just as fully developed and differentiated from the common type as one of our finest Roses is compared with a wild Briar. In Great Britain especially Nature appears to have been most generous in this respect to the Fern tribe, since considerably over a thousand distinct finds are recorded for our forty odd species, several of which, such as our Lady Fern, Buckler Ferns, Hart's-tongue, Spleenworts, and Hard Fern, have yielded the large majority, while scarcely any have failed to sport in some way.

As all these (with two unimportant exceptions) are as hardy as grass, we have obviously a good choice of material for those shady positions to which we alluded at the outset of our paper, for although many, of course, are curious rather than beautiful, the really charming ones run into hundreds and even the curious ones are interesting. What, then, must we say of those who, having suitable positions such as we have described, utilise the space in thousands of cases by filling it with two or three species repeated *ad nauseam*, and represented solely by the common or weed forms bought from the costermonger's barrow, or the vandal who depletes the Ferny laues and combs of Devon or elsewhere, and finds an outlet through the post.

There is, indeed, such a curious ignorance even of the existence of these beautiful native sports, the like of which no country on earth can parallel, that probably hardly one person in ten thousand is cognisant of it, despite the fact that half a century ago they were the rage, though most of the best were then unknown, and that at Kew there is a magnificent representative collection obtained by bequest and gift from the best sources. An idea of the popular estimate of our British Ferns may be formed by the fact that one Fern dealer has the audacity to insert "no British trash" in his advertisement of exotics. Trash is no fit word at all for Nature's productions, but applied to British Ferns as a whole simply betrays a pitiable ignorance.

Space precludes a list of desirable varieties, which, moreover, we have already given in these columns, but we cannot too strongly advise those who have congenial positions available to obtain lists from respectable firms, and try the experiment of introducing a number of good forms in lieu of the merely common ones. This done, each plant will have its individual charm, while the total effect of the fernery will undoubtedly be enhanced by the addition of frills, tassels, and feathery plumes to its occupants. For windows well-grown single specimens, if carefully attended to as regards watering and kept rigidly in one position, *i.e.*, so that they face always to the light, will repay the trouble, and will certainly evoke the wonderment of many a visitor. We have a vivid recollection of even a common Hart's-tongue so treated which completely filled a window with huge fronds, and formed not only a "thing of beauty," but also "a joy for ever," owing to its thoroughly evergreen character; but we also have in our mind's eye a thoroughbred crispum, or frilled variety of same species (*S. v. Drummondiae*), in a north window in Guernsey which completely took our breath away, and formed an ideal which we have never seen excelled.

CHAS. T. DRURY, F.L.S., V.M.H.

AMERICAN NOTES.

A PLEA FOR MORE WATER GARDENS.

THE following are extracts from a paper by Jackson Dawson, superintendent Arnold Arboretum, read before the New England Association of Park Superintendents.

"One of the great needs in our parks is some natural bits of planting near our ponds or lakes.

While I would not like the whole pond or shore covered with shrubs or aquatics, I would like some little bits of Nature left. What looks more unnatural than a beautiful pond or lake divested of all natural beauty, leaving the trees trimmed up like so many sentinels and every vestige of shrub and flowering plant cleaned to the water's edge? On the other hand, what is more beautiful than the trees or shrubbery hanging over a river's bank or gracefully grouped at intervals along the edge of a pond? We have so many plants that love this moist situation. Imagine a planting of groups of Azaleas, Clethra, Viburnums, Cornus and Myrica, and with Irises, Hibiscus, Forget-me-nots, Eupatorium, &c. Can we not have more water gardens in our parks and make those we have more ornamental instead of the unsightly things edged with stone walls that we call ponds? Neither pond nor brook should be planked with stone unless actually necessary to hold the soil in place, and even then they should not be laid like a wall, but as near on a natural slope as possible to the water's edge, with plenty of pockets left to plant, so that eventually the stones will not be seen, but would have the appearance of a natural bank. What we need most is some natural bits of planting near our ponds or lakes. As a rule we have too much trimming and cleaning up around them, often destroying the shrubs which were really beautiful and turning what was a beautiful bit of Nature into desolation. I have seen ponds and bays where all the natural shrubbery and native planting were cleared up to the water's edge, and the trees in the park trimmed up like so many sentinels, thus destroying all the charm of the once natural woods and river banks. We know, of course, that in public places we cannot have all such places decorated, but we could have more than we do. We surely have material enough to plant such places with perfectly hardy plants, and when once planted I am sure the public will appreciate them. A lake or pond properly planted can be made a thing of beauty from spring to autumn, and even into the winter. These places need not all be planted, mossy openings can be left, but when it is planted the planting should be massive, and so planted that a continuance of bloom could be had from spring until the middle of autumn. Trees and shrubs gracefully grouped with herbaceous plants on edges and aquatics in the water present at once a beautiful contrast with water not so decorated. I have seen many fine natural effects which might well be copied, for instance a group of Flag, with cardinal flower and white water Lilies along the Hudson. A river with overhanging trees and shrubs. A swamp of cardinal flowers, red weed and bidens, &c. I could enumerate groups without number, all beautiful and offering you object-lessons so that you might make hundreds of combinations out of chiefly native plants. Add to these many fine herbaceous plants and aquatics that are hardy and a water garden could be made, the finest feature in many of our gardens and parks."

Mr. J. C. Olmsted writes in *Gardening* (America):

"I cordially agree with Mr. Dawson's vigorous handling of the subject of park ponds. I think many of the park ponds have been made unnecessarily ugly by engineers or by gardeners who are over-fond of formality and have little love of natural effects. As a matter of fact, if a pond is intended to be natural and informal, it is never necessary to use either riprap walls or curbing around the water edge. A shore can always be of earth protected by natural vegetation, or of a gentle slope covered with coarse sand or gravel. Nine times out of ten the difficulty of properly treating the shore of a pond arises from the slope above and below water being continuous with each other and too steep, and there should be a beach rising a few inches above the water on a slope of 1 in 5 or 1 in 10, and continuing to the depth of 3 inches to 6 inches below the water, with the same gentle slope. Such a beach made of gravel of suitable size will stand very heavy wave action. Another difficulty arises where water birds are kept in the park pond, in that they destroy the turf or plants which would otherwise beautify and

protect the shore. In that case a gravel beach with appropriate waterside bushes and trees, where there is no objection to obstructing the view, is the best treatment."

THE KITCHEN GARDEN.

THE GLOBE ARTICHOKE.

IT is highly important to maintain a supply of this delicate vegetable for as long a time as possible, and the cultural details that should be adopted to extend the season of bearing may well be considered at this period of the year. In the first place, the Globe Artichokes are often allowed to remain too long without division and in one spot, consequently the heads will be produced in abundance in July, and later on there will probably be a scarcity. To avoid this state of affairs it is well to take up a part of the plot, say, a third of the total number of plants each year, divide them carefully into pieces having two strong crowns, and replant these, three or five in a clump, thus:

4 feet apart either way. Of course the ground should be well and deeply dug or trenched, working in plenty of good farmyard manure; the present is a good time to do this work. Transplanting should be performed in the month of March, choosing a mild, dull day for the operation, as if sunny or windy the roots soon become dry, and harm will result. Do the work as quickly as possible, and give a good soaking of clear water to settle the soil about them.

There are but few spots in this country where Globe Artichokes will withstand the winter without some kind of protection, and we in the Midlands find it absolutely necessary to protect the plants well with Bracken or other rough litter. This may be removed at the time of replanting, and a mulch of decomposed manure forked in round about the remaining established plants, thus making the whole plot neat and in order for the summer. The Globe Artichoke is a gross feeder, and is much benefited by being mulched with some half-rotten manure on the approach of hot dry weather, with occasional copious waterings of clear water alternately with manure water from the farmyard.

As the heads are cut for use the stems on which they grew should be at once cut away to avoid weakening the plant. By this system of annually dividing part of the bed and replanting the crop will occupy entirely fresh ground every third year, and a desirable succession from the divided plants be ensured. In gardens where the soil is of a cold clayey nature I would advise splitting up some old plants during winter, and place some of the best pieces in pots of soil; they may be kept in any cool structure until the weather is favourable for transplanting to the open quarters. This nursing will be amply repaid in the resulting crop, and especially so in cold parts of the country. Golden rules to observe are to protect the plants efficiently in winter, and to encourage a quick robust growth in summer so that the heads may be fleshy and well developed.

H. T. MARTIN.

Stoneleigh Abbey Gardens, Kenilworth.

POTATO ONIONS.

This variety of Onion, familiar to some people as the underground Onion, is not as well known to the amateur gardener as it deserves to be, and for those who are fond of this vegetable I would recommend a trial of this variety. It is easy of culture, is cheap, it furnishes a large supply of well flavoured bulbs three months before the ordinary Onion crop can be gathered, and it has the further recommendation of producing large sized Onions, a point which with the ordinary varieties is the frequent cause of keen disappointment. The growth is somewhat similar to that of the Shallot, but the growth is not as much above the ground as with Shallots, and the Onions themselves are considerably larger, the average individual size being (I do not mean that perhaps one out of a dozen will reach this size) 2½ inches

in diameter. A good, well-manured loam is perhaps the best soil for them, but they appear to do well almost anywhere, providing the ground be well dug and a top-dressing of wood or vegetable ashes or soot be given them, but the ground does not require to be beaten firm as when sowing ordinary Onions.

Plant as soon as possible this month in rows 2 feet apart and the bulbs 18 inches from each other. When they have commenced to grow keep the ground open and free from weeds by frequent hoeing. The Onions will be ready for gathering by mid-summer, and should then be dried and put away in a dry place, the space they have occupied being used for a different crop. After the first onlay for seed bulbs there need be no other expenditure, as any sound well shaped Onions from the crop may be used for seed the following year. The price of seed bulbs is about 3d. per lb., and one bulb should produce five to eight large Onions.

Sutton, Surrey.

P. LONGHURST.

TURNIP CARTER'S FORCING.

EARLY Turnips are generally much appreciated if they can be produced during early spring, and I

main crop; indeed, in very light soil, January is preferable if the land be workable, but crops sown as late as the middle of March and afterwards are very liable to the attack of blight. This terrible disease, which, unfortunately, was very prevalent last year (I saw hundreds of acres of Beans as well as garden crops completely destroyed by this pest), must be taken in hand directly it makes its appearance. The cheapest and most effective antidote is syringing with a solution made of a packet of Hndson's Extract of Soap dissolved in 36 gallons of water (less in proportion). Plant in rows, the seeds 2 inches deep, 6 inches apart, and 3 feet—not less—between the rows, and keep the ground well hoed until the Beans are in bloom. Pick the pods when young; if allowed to remain until absolutely full grown some of the sweet and juicy flavour will be lost and the Beans become dry.

If you have Gooseberry bushes in the garden, and are not a rigid stickler for mechanical regularity and appearance, sow the Beans so that they run alongside the Gooseberries; the presence of the Beans prevents the attacks of the Gooseberry fly. Why this pernicious insect should have a dislike to the proximity of Broad Beans is not very clear, but

habit, such as should not be used for crosses, and are unlikely to be capable of improvement. But we think our specialists on the right road towards an improved form of the good splendens x giganteum type, as shown by the accompanying photograph. The new race was raised and fixed in the nursery of Mr. Alwin Richter at Dresden, and it will certainly interest you to hear that the one parent type, viz., *C. persicum giganteum*, was imported from England some twenty years ago, though I do not know from which nursery. It has taken twenty years to fix the frilling so as to obtain an average of 60 per cent. of the seedlings true; but I may say they are all, even the smooth-edged, of a remarkable strength, and the size of the flowers is always satisfactory. Here we want the Cyclamen, not only as a market plant, but almost as much for cut flowers; the strong peduncles make this race most useful for that purpose. No doubt what you want in England is a plant of good habit, and in this way I think there remains nothing to wish for. The leaves, as strongly stalked as the flowers, have not the silvery white markings of the splendens race, but remind one of the simple old persicum. There are sometimes but few flowers on small, not repotted plants, but the smallest plant invariably bears flowers of an extraordinary strength and size. The flowers are perhaps not so numerous as in the older types, but, as the photograph shows, they are of reasonable quality.

Concerning the colours these are the most distinctive: (1) White with an eye, (2) many shades of a very fine pink with the frilling much developed, (3) a new colour which the raiser calls "lilac-coloured," not to be confounded with the older so-called blue colour, for this never looks blue at all, even in twilight, and (4) a dark-rose-red. All the darker colours show a distinct light margin on the petals which makes the frilling more conspicuous. The frilling itself makes the flowers look larger than they would do without it. I should be glad if this notice induced some of the English specialists to try this race of frilled Cyclamens.

Dresden.

FRANZ LEDIEN.

[This notice of a good new race of Cyclamens, coming as it does from

the Inspector of the Royal Botanic Garden at Dresden, should be an encouragement to lovers of these beautiful plants to grow the new strain.—Eds.]



THE NEW FRILLED PERSIAN CYCLAMENS.

would strongly advise all who have not done so to try this variety. A few years ago Messrs. Carter kindly sent me a small packet of seed for trial, from which I obtained the best possible results, and I have grown it largely ever since, never once failing to have a good supply of young Turnips during May. My practice is to make small sowings in cold frames on last year's hot-beds at intervals and a succession is thus ensured. The only forcing they are thus subjected to is that obtained by the aid of the glass and sun-heat. We give air freely on all favourable occasions.

E. BECKETT.

Aldenham House Gardens, Elstree, Herts.

BROAD BEANS.

To get good crops of Broad Beans the ground must be deeply dug, and if at all light heavily manured. The man who has thus prepared his ground during the latter part of the previous year may confidently look forward to a better crop than one who turns over the soil only immediately before sowing. Heavy soil will produce very fine crops, providing it has been well worked and the frost and rain of winter allowed to get into it.

February is quite late enough for sowing the

my experience has proved that such is the fact. A quart of Beans will sow about 50 yards run.

Sutton.

PERCY LONGHURST.

THE FRILLED CYCLAMENS OF DRESDEN.

LOOKING through the pages of the last volumes of THE GARDEN for the English opinion about the Belgian Papilio race, I find more than one notice describing them as somewhat unsuitable for market culture by reason of their rather ragged and indistinct habit of growth, &c. German gardeners are, I think, of the same opinion about that much-spoken-of novelty. But as you and your readers are interested in new forms of Cyclamens, as we were also at the first notice, I send you herewith some photographs of a relatively new race of frilled—not fringed—Cyclamens. Here we do not expect much from any amelioration of the Belgian Papilio, for we think them to be derived from parents of bad growth and

THE INDOOR GARDEN.

BROMELIADS.

THE various members which compose the large family Bromeliaceae are not popular with gardeners generally, but many Bromeliads are well worth attention, for the flowers are decidedly showy and interesting, and for combinations of colour vie with many Orchids. One of the most beautiful exhibits at the hybrid conference at Chiswick in July, 1899, was that of hybrid Vriesias, &c., made by Messrs. Duval and Sons, of Versailles, and could a group of the same or similar subjects ten times as large be made at next year's Temple show its beauty would be sufficient to gain for Bromeliad culture many new converts.

At Kew a fairly comprehensive collection of these plants exists, and at the present time several interesting species are in flower, among them a number of the most conspicuous being *Billbergia nutans*-Moreli, a hybrid with long, narrow, green leaves and arching inflorescences 15 inches long. The whole inflorescence is clothed with large red bracts which sheath the stem, and towards the apex with tubular, yellowish green flowers tipped with blue. Others of the same genus are *Leopoldii*, with pale blue flowers and wide green leaves; *speciosa*, with short green leaves, rose-coloured bracts and yellow flowers tipped with blue; and *vittato-Bakeri*, with long, stiff, upright leaves, red bracts, and cream flowers tipped with blue. As a contrast to these there are several *Pitcairnia*s with scarlet or bright red flowers. Foremost among them are fine plants of *nuscosa* with dwarf habit and grass-like leaves, bearing several spikes of flowers, the spikes ranging from 9 inches to 18 inches in length; and *angustifolia*, with short stems surmounted by heads of arching, grass-like leaves and inflorescences of showy flowers. Distinct from these is *P. maidifolia* with wide leaves, red bracts, and yellow flowers. To lengthen the list there are several plants of *Echmea fulgens* and its variety *discolor*, bearing upright spikes of coral-red blossoms, and several *Tillandsias*, of which a hybrid between *carinata* and *psittacina*, with long spikes of red and yellow flowers, and *bulbosa*, with a short, curious bulb-like stem, and strangely contorted, roundish leaves and peculiar reddish inflorescences are most conspicuous. In addition, there are others equally showy and interesting coming into flower, whilst the variegated leaves of others, again, make them worthy of attention for that reason alone.

W. DALLIMORE.

STOVE PLANTS.

CHARMING little hot house plants are the

BERTOLONIAS,

and indispensable to the cultivator who takes a pride in the appearance of the stove. The leaves are beautifully marked and coloured; in fact, the chief decorative value of the *Bertolonia* lies in its possession of such elegant foliage. The plants are quite dwarf, almost creeping, and for that reason are peculiarly useful for covering unsightly corners.

They are, perhaps, most useful in a house devoted to the culture of stove plants, but in which the latter, instead of being grown in pots, as is generally practised, are planted out in beds of suitable soil. An excellent example of the most natural and beautiful method of cultivating stove plants may be seen in the *Nepenthes* house at Kew. These interesting and comparatively little grown plants are suspended from the roof (but not in such numbers as to appreciably exclude the light), while beneath are planted out in the most natural manner possible a great variety of stove plants. Large pieces of rock or stone are placed irregularly on the border, sometimes grouped together, sometimes singly. By this means a variety of situations is provided, enabling plants of all sizes to be grown. The *Bertolonias* are thoroughly at home clambering over the rocks and stones, and display their appropriateness for such a spot in a most convincing way. The flowers of these plants are somewhat insignificant.

Bertolonias are not at all difficult of cultivation; they may be successfully grown in a peaty, sandy soil; a warm, close, and moist atmosphere is necessary also. Faulty ventilation, the dripping of water from the roof on to their leaves, draughts or cold will do much to make their culture difficult. The leaves are delicate, and such adverse conditions as these quickly disfigure them. To be safely out of reach of such they should really be grown under a bell-glass; it is then that the full beauty of their leaves is seen and also preserved. In such confinement, however, they serve no useful purpose, and fortunately it is not essential that they should be given protection of this sort, providing that as far as possible the unsuitable surroundings above mentioned are avoided. They should have the warmest and most moist part of the stove. The roots are tender, so it goes without saying that watering must be carefully practised. Propagation by cuttings is not difficult to carry out, and is indeed the best method to adopt. Most worthy of inclusion in a collection of stove plants are *B. maculata*, *B. marmorata*, and *B. Comte de Kerchove*.

BIGNONIA.

There are perhaps no stove climbers more rampant in growth or more gorgeous in flower than the *Bignonias*, and perhaps the first-mentioned attribute has not a little to do with the fact that

they are grown to any extent in a limited number of gardens only. They are obviously only suitable for growing in large houses, where they can be allowed to grow at will without trespassing upon valuable space. But those fortunate enough to possess a house in which they can be allowed to have their own sweet way will, if the conditions are favourable, be amply rewarded by the display at the flowering season. The blossoms of the *Bignonias*, of which there are numerous species, range through a remarkable variety of colour—orange, red, yellow, purple, scarlet, white, &c. To have them at their best these stove climbers ought to be planted out in a bed of good soil; with the roots restricted to the run of a pot dissatisfaction is always liable to result. Needless to say, the bed must have thorough drainage, and the soil also should be porous. Rough fibrous loam, and lumps of peat in equal proportion, together with a quantity of silver sand, will provide the necessary compost.

A. P. H.

(To be continued.)

WALL GARDENING AT GUNNERSBURY.

THE walls or, more correctly speaking, the wall was the outcome of a suggestion made by Mr. Leopold de Rothschild in the autumn of 1900 after a visit to Hampton Court Gardens, where the old walls contiguous to the palace form a suitable background to the beautiful borders. With the request to attempt something in a similar way it occurred to me that we could not do better than carry out the same ideas, but in a modified form, that were adopted some years ago in these gardens, so that the wall would appear to be a part of the same building, which is, to all appearances, a ruin in various stages of collapse. As bricks formed the material of the original building bricks again were used. Good bricks, as used in new walls, would not, however, give the desired effect; hence we had resort to all the old ones that could be found. Fortunately other work in hand at the same time, the formation of the Japanese garden, supplied us with this

material to a large extent by excavating old walls which had been for years buried beneath the surface. Cement and Thames sand were used rather than lime and the local sand, the former admixture imparting not only greater strength but age also. In the erection one difficulty arose and had to be overcome. This was in giving two appearances to the wall—upon one side an ordinary garden wall in a good state of repair and upon the other that already alluded to. The average width of the wall is two bricks and a half or 23 inches. This width was arranged—first, to form a solid base without deep foundations, and afterwards to allow the wall to be built hollow, with openings here and there for plants to be inserted. On the ruin side the joints were scratched out partially with a pointed stick instead of adopting the usual course of pointing with a bricklayer's trowel. As the summit was reached the wall on this side was left, as it were, in a broken-down way and as irregular as possible under the circumstances, whilst on the other side it was finished off with half bricks on edge to allow as much room as possible for soil. This space for soil at the top was 14 inches wide, whilst in the next and lower courses it was 9 inches, with ties across from one



A BORDER AND WALL IN THE GUNNERSBURY HOUSE GARDENS (MARCH, 1901).

side to the other. These ties were connective from bottom to top, thus the space provided for soil was connective, too.

This method of construction facilitated the watering of the plants, an all-important matter, more especially during the dry weather of the summer of 1901. The planting was done from the end of March onwards. Climbing Roses and other climbing plants were the first to be planted, but the greater part of the planting was done in May—i.e., in the holes and upon the top. I should have done it in April, but other work then pressed. April should certainly be the better time for all hardy plants, Alpines and otherwise. Seedling plants of Wallflowers and Antirrhinums were planted on the top about the end of June, whilst the weather was both hot and dry. These, however, succeeded admirably far beyond our expectations. In completing the planting upon the top, as a precaution against the soil being washed down, and likewise to conserve moisture as well as to protect the roots from excessive heat, small pieces of stone were placed closely together around all the plants. This contributed greatly I have no doubt to the after luxuriant growth and freedom of flowering. One-half of the wall was provided with water by the use of perforated galvanised iron piping fixed upon the brick-on-edge alluded to. This half had sandstone as the covering material. The other half was not provided with any means for watering, but was attended to in this respect from the back with a water-can as occasion arose.

This part of the wall had limestone as a covering, hence the opportunity was afforded of arranging the planting according to the requirements of the plants—sandstone and more moisture, limestone and less moisture. This classification we found to answer very well, with one or two exceptions, upon the face of the wall in the latter category—here more moisture was evidently required. In the nooks and recesses which such a wall affords various plants, otherwise too tender, were successfully grown, such, for instance, as *Solanum Wendlandi*, *Hibiscus sinensis*, *Rhynchospermum jasminoides*, and *Lapageria rosea*.

SOME OF THE PLANTS USED.

Climbers, &c., against wall.

Thladiantha dubia
Passiflora cerulea and *P. c. Constance Elliot*
 Roses, climbing varieties
Bignonia grandiflora, *B. radicans*, *B. sanguinea*
Ceanothus Gloire de Versailles and *Marie Lemoine*
Ampelopsis Veitchi
Aristolochia Sipho
Magnolia grandiflora
Vitis Thunbergii, *V. Coignetiae*, and others
Azara microphylla
Tropæolum tuberosum and at top of wall.

TENDER PLANTS IN RECESSES.

Carpenteria californica
Berberidopsis corallina
Solanum Wendlandi
Fremontia californica
Cobaea scandens variegata
Bougainvillea sanderiana (did not flower)
Ipomea "Heavenly Blue" (annual)
Lophospermum erubescens
Plumbago capensis
Hibiscus sinensis
Lapageria rosea
Convolvulus althæoides



THE SAME BORDER AND WALL (EARLY SEPTEMBER, 1901).

PLANTS UPON TOP OF WALL.

Lupinus arboreus
Rosa wichuriana vars.
 Carnations vars. and *Dianthus* sp.
 Antirrhinums, seedlings
 Wallflowers, seedlings
Arenaria montana
Aubrietia Leichtlini
Campanula isophylla and others
Cheiranthus alpinus and vars.
Cistus florentinus, *C. ladaniferus*, *C. lusitanicus*
Erinus alpinus
Gemm montanum
Helianthemum vars.
Onosma tauricum
Pentstemon sp.
Plumbago Larpenæ
Phlox sp. (alpine)
Rosa lucida, *R. alpina*
Saxifrage in variety
Mesembryanthemum sp. (for flower)
Yucca filamentosa
Agave americana variegata
Statice sp.
Salvia splendens nana

J. HUDSON.

NOTES ON HARDY PLANTS

SISYRINCHIUM STRIATUM

AS Mr. Burrell says, on page 90, this plant may be regarded as exceedingly useful. It will thrive almost anywhere, and its Iris-like leaves always look attractive, even if there is not a flower on the plant. Then it blooms so long at a stretch and gives such a profusion of small flowers that it is something to admire at a time when flowers of its character are scarce—late autumn—although it blooms earlier to begin with.

I should like to ask the readers of THE GARDEN who grow it if any of them have observed anything about the plants to justify the specific name of "striatum?" In his description, Mr. J. G. Baker speaks of the segments as "pale yellow, veined with brown." I have not observed this veining, which may possibly be the origin of the name, but

others may have noticed it. Anyway, it seems a pity that a name so little descriptive should be in current use. That in Loddiges's "Botanical Cabinet" of "lutescens" seems to suit the plant much better, so far as I have seen it.

It is very easily raised from seeds, and here it sows itself so freely that young plants are often weeded out when the borders are gone over.

THE LEUCOJUMS.

I HAVE read with great interest Mr. Fitzherbert's note on *L. æstivum* in THE GARDEN of February 8, but am quite at a loss to account for the blooming of his hitherto flowerless plants in their new position. Since we had some correspondence and made an exchange of bulbs for trial I have not lost sight of the question raised some two years ago. If I remember correctly, I sent Mr. Fitzherbert bulbs of some four lots of *L. vernalis*, three of which are quite distinct in their ways here. One was a form which makes its growth in late autumn or early winter, and is at present with its foliage fully developed. This is growing in a damp place, and often gives flowers as early as the later spring Snowflakes, but not so early as the first of these. This is a shy-blooming form, which comes nearer to what appears to be *L. pulchellum* than the other, but is much harder and earlier. Another was what I take to be the typical form of *æstivum*, which makes its foliage in spring, and is but little above the soil at present. This flowers regularly and freely. I cannot recollect where either of the foregoing came from originally, but I had from Broussa some bulbs which appear to be identical with that just mentioned. These two lots have lighter green leaves than the first named. I believe I sent Mr. Fitzherbert one of the Broussa bulbs.

The other form was what I grow as *L. pulchellum*, which comes very near the ordinary *æstivum*. It is spoken of in Mr. Robinson's "Hardy Flowers" as *Hernandezii*, and is there described as flowering three weeks or a month before *æstivum*. It has narrower leaves, fewer flowers in a spathe, and smaller blooms. This seems to be a more tender plant with me than any of the others. It makes its growth about the same time as the first named, but blooms later, and often has its foliage injured here by late frosts, a thing I have not observed with the others. It has thus increased more slowly and does little more than hold its own,

The bulbs I got from Mr. Fitzherbert, again, resemble in their growth here what I take to be the typical *estivum*, the second form referred to, except that they are more shy blooming. The singular thing is the different behaviour of these in the garden to which your correspondent sent them. I fear we must have patience and experiment a little further before we can come to a definite conclusion. Whatever the botanical difference from a garden standpoint there at present appear to be two or three distinct varieties of *estivum*. If we can satisfy ourselves upon this point we shall have done something towards prolonging the Snowflake season in gardens other than our own.

S. ARNOTT.

Rosedene, Carsethorn, by Dumfries, N.B.

ANTIRRHINUMS.

THE tall forms of *Antirrhinum* are excellent for large beds or borders, and although very good results are obtained from mixed seed it is well if they are to be made a speciality for the summer flower garden to buy the seed in named varieties from some well-known hardy plant seedsman. The plants under these conditions come very true to name, and may be grouped in different shades. The strong growing varieties amply repay liberal treatment, individual spikes attaining a height of between 5 feet and 6 feet, whilst the vigour of the plant gives a great wealth of after bloom when the central spike is removed. Staking is advisable if the situation is exposed or rough winds are apt to snap off the heavy spikes.

E. BURRELL.

DAFFODILS GROUPED WITH SHRUBS.

WHEN flowering plants are closely associated with shrubs it is desirable that the treatment should be bold and distinct. Well grouped shrub clumps are all the better for the softer plants if these are judiciously chosen and well placed and arranged, and in quantity enough to make a show in some sort of good proportion to the firmer shrub masses. The illustration shows such a bold planting of one of the good

Daffodils in the grass at the edge of a shrub clump. When the Daffodils are over, and their foliage has ripened and turned brown, it will be mown with the grass up to the edge of the shrubs.

EXHIBITION VEGETABLES.

NO branch of gardening deserves more encouragement than the culture of high-class vegetables. Good vegetables are one of the necessities of life, and it is profitable and pleasurable to grow them to perfection. During the past thirty years enormous strides have been made in their development, and I venture to say that this is greatly due to the encouragement in the shape of prizes offered at many of our large exhibitions, and also at our cottage garden shows held in many towns and villages throughout the country.

I hope I may live to see the day when a truly National Vegetable Society is formed, in which encouragement is given to the trade, professional gardeners, amateurs, and cottagers. If such a society was once formed I have not the slightest doubt, if properly worked, it would prove one of the most useful and interesting of horticultural organisations. It is argued that vegetable exhibitions are not sufficiently beautiful or interesting to attract the general public, but I am convinced that this is not so. We have only to call to mind the interest centred in fine collections at such shows as Shrewsbury, London, Birmingham, and Reading, when valuable prizes are offered and the finest types of vegetables splendidly presented. Almost every vegetable during recent years has been taken in hand by the hybridiser, the result generally being better strains. Peas, Potatoes, Cauliflowers, Tomatoes, Cucumbers, Brussels Sprouts, Carrots, Celery, Vegetable Marrows, Cabbage, Onions, Beans of all kinds, Leeks, and many

others have been greatly improved of late years. Those who are thinking and hoping to excel in the production of high-class vegetables must remember that much work and forethought are needful, but let it not be forgotten that even when one has no good position or ideal vegetable soil a splendid success is not impossible. There is no soil or position in the country that cannot be brought into a suitable condition for, if not all, the majority of vegetables. Those who persevere are the ones to succeed. Success is not a matter of mere luck as some imagine.

PREPARATION OF THE LAND.—I regard this as of the utmost importance, and unless it can be brought into a good state of cultivation no amount of work and worry will ever produce the finest vegetables. Deep cultivation must be persisted in, and in spite of what other growers may say I know from long practical experience that when this is systematically practised quite double and sometimes triple returns are assured. It is not so much a matter of size of garden or farm as the way it is worked. The land must be deeply drained, and the trenching practised if possible annually at no less a depth than 2 feet 6 inches or 3 feet. Bring the bottom spit to the surface, and break up the soil deeply below with a fork. This will receive almost any garden refuse or manure which may come to hand, the longest and greenest being placed in the bottom, throwing on the surface spit, which will in time find its way to the top. Instead of about a foot or in some cases less of workable soil, one will in a short time possess a valuable depth of soil capable of producing good specimens of almost any vegetable. Of course it is essential to make stiff and retentive land light by working into it suitable material, especially so on the surface after the trenching is completed, such as wood ashes, old mortar rubble, and road scrapings. Stable manure somewhat green should be used in preference to any other on heavy land, and that from horned stock for lighter soils. Light land should be trenched

during autumn and winter, but the stiffer soils as much as possible during February and March.

ROTATION OF CROPS.—It is hardly necessary to dwell at any great length on this, as it is generally well understood by all who make any pretence at gardening. The sites for the different crops should be changed as far as possible each year, except in a few cases such as Onions, Shallots, Artichokes, and Horseradish, each of which, providing the ground is well replenished with manure yearly, may be grown on the same land for years.

QUALITY *versus* SIZE.—This question has been discussed many times. It does not always follow that size means bad quality. Good judges should be in a position to determine this, but unquestionably size is far too often taken into consideration, especially in the case of such things as Potatoes, Cauliflowers, Cabbage, Vegetable Marrows, Cucumbers, and Tomatoes. Potatoes particularly are shown too large, and medium-sized tubers of the finest quality should certainly be preferred to large ones, even though they may be shapely and of good appearance. Onions, Leeks, and Celery, however, if of the best varieties, cannot be staged too large, for the reason that size denotes high class culture and good quality.



DAFFODILS GROUPED WITH SHRUBS. (Photographed by Miss Willmot.)

VARIETIES TO GROW.—It is well to remember that an inferior vegetable is as troublesome to grow as a good one; although the cost of procuring the best varieties in the first place may be somewhat more expensive, it is cheaper in the end to get the best, and when once in possession of any special strain endeavour to keep it by saving one's own seed annually. This applies especially to Peas, Beans, Onions, Cucumbers, Tomatoes, and Marrows, each being easily selected and saved.

STAGING EXHIBITS.—Practise alone can make one perfect. The difference between a well set up collection of vegetables and one arranged slovenly is most apparent, and though there may be little difference in the quality of the produce in each case, vegetables well shown are certain to win, and rightly so, and the same applies to single dishes.

JUDGES.—Too much care cannot be exercised in selecting competent men for this most important and responsible post. When this is done, no exhibitor should complain of their decision, although it may not always agree with their own belief. Much must be taken into consideration when judging vegetables, and nothing more so than the season. When making, for instance, awards through August and September during trying seasons such as the two last, a good dish of Turnips perfect in every respect should receive the maximum number of points, but on the other hand, when the season has been favourable to their production, these should not carry much weight. Nothing is more easily obtained during a wet season, and nothing more difficult during a hot dry summer. Again, more attention should be paid to quality, especially in the case of Potatoes and Peas. Some varieties are all that can be desired as far as appearance goes, but are of the poorest quality when cooked. I consider this of the greatest importance. When judging fruit quality is generally the first thing considered. E. BECKETT.

(To be continued.)

RIVIERA NOTES.

PROPAGATING THE TREE PEONY.

No one I see has mentioned that a very favourite and easy method of propagating the Tree Peony is by layering into little pots tied on to the stems. So easy a mode of obtaining young Tree Peonies on their own roots should not be overlooked, for such young plants not unfrequently bloom the first year. The layering should be done just after the flowering time, and the rooted layers are ready to be planted out in October, at any rate on these shores. I have also found shoots put in sandy soil, and kept shaded and sufficiently moist to keep the foliage alive, will root if put in after the young wood is half ripe, but the plants are much weaker and less satisfactory than those layered into small pots. The

CARNATION SHOW HELD AT NICE

on the 13th and 14th ult. was a very small one, as none of the great growers outside the Nice district exhibited, but there were some beautiful blooms, especially of Rosa Bonheur, a very large yellow ground with rose edged petals, but a desperate splitter and weak in the stem. A smaller flower of an exquisite shade of pink

called Comtesse Avet was my favourite, but curiously enough the growers neither gave their addresses nor were present themselves when the world was there, so that more English enterprise is needed. No doubt they are satisfied with their own market, for prices of cuttings seemed ridiculously high generally. The Cannes show—on March 6 to 10—will probably produce a far finer lot of bloom. At least after last year one expects something extra good. I am glad to find one or two growers are growing expressly for seed purposes, and to get the size of these blooms infused into northern strains would be an attraction to those who do not demand a very smooth edged flower.

SPRING FLOWERS.

Spring is early this year, and Anemones and Violets are in fullest beauty. Every day some fresh Iris pops up a flower, and among the various forms of the Iris reticulata and the Persica section, I think I. bakeriana carries off the palm here. I. assyriaca is far superior to sindjarensis in my judgment, and the clear yellow form of I. olbiensis is particularly welcome among the early Van Thol Tulips, its spiky blue-green foliage and slender flower stems are so distinct. Iris tingitana is nearly open in some gardens I see, and is very strong this year. Of Neapolitan Violets, the trio Mons. Aster, so dark in colour and so large, Mme. Millet, so very fragrant and distinct in its rose shading, and Lady Hume Campbell, so free and hardy, are the most satisfactory varieties here; but Mme. Millet needs attention in the matter of removing the runners constantly to show her true character. One learns by experience that the secret of success for Daffodils is deep planting and deep cultivation. The first keeps the bulbs from the summer heat, and also checks excessive multiplication, and the latter provides the necessary root run and moisture. While the deeper yellows do less well than in the north, the whites and pale yellows enjoy the conditions,

and I rejoice to see that N. pallidus præcox does make offsets in this climate. The Almond trees have been a fuller pink than usual. I wonder if it is the moisture in soil and atmosphere that has caused it? E. H. WOODALL.

PRUNUS SERRULATA.

TOWARDS the latter end of April, when the majority of the Plums are in full flower, it is difficult to single out one as prettier or showier than at least half a dozen others. Of the various groups, however, that which comprises the Cherries is by far the most showy. To this group the species under notice belongs, and it is one of the most ornamental of the set. It is by no means a new tree, having been introduced from China about eighty years ago. It is naturally a small tree with a rather loose habit, and is peculiar by reason of its short-jointed, stunted-looking branches. The leaves are fairly large and very evenly serrated. The flowers are borne freely in large, loose heads, which are white, or white suffused more or less deeply with rose in colour, and 1 inch to 1½ inches across. For lawns or shrubberies it is excellent, making a good companion plant to its own countryman, the large-flowered pseudo-Cerasus and its European cousins, Cerasus and Avium. In addition to being an excellent outdoor tree, it may be cultivated in pots for forcing for the conservatory in winter and spring. Although originally introduced from China, it is also found in Japan, where it is said to grow 15 feet or 20 feet in height. W. DALLIMORE.

NEW JAPANESE CHRYSANTHEMUMS.

(Continued from page 77.)

THE following varieties supplement those described in THE GARDEN of February 1 last, and represent many of the best exhibited for the first time last season.



PRUNUS SERRULATA IN FLOWER. A SPRING PICTURE IN THE ROYAL GARDENS, KEW.



A FLOWER BORDER WITH PLANTS BOLDLY GROUPED. (Photographed by Miss Willmott.)

Godfrey's King.—Beautiful blooms were exhibited before the National Chrysanthemum Society's floral committee on October 28 last, and were awarded a first-class certificate. Their chestnut-crimson colour will make them highly prized for exhibition, rendered more effective by the golden reverse. The florets are of good length, fairly broad, and compose a flower of reflexed Japanese form, the florets incurving at the ends. A decided acquisition.

Violet Lady Beaumont.—Although the flowers of this variety were not so large as those of many of the giants of to-day, sufficient quality was represented to gain a first-class certificate of the National Chrysanthemum Society on October 28 last. The very broad florets have great substance. Deep rich crimson is the colour, the reverse a golden-bronze. It was staged by Mr. N. Molyneux, and the bloom should prove a worthy successor to the popular *E. Molyneux*.

Mrs. George Lawrence.—Numerous plants flowered on single stems in 6-inch pots were shown before the National Chrysanthemum Society on October 28 last; the flowers are evidently of great value for exhibition. Grown in the way described they were also useful for grouping. The flowers were large, spreading, and with long, broad, and slightly-curved florets. Rich yellow describes the colour. Awarded a first-class certificate.

Ethel Fitzroy.—This variety was one of the finest shown last year. Next year there should be a free display of its flowers at all shows worthy of the name. When placed before the National Chrysanthemum Society's floral committee on November 11 last it gained full points, and, of course, a first-class certificate. The florets are long, of rather more than medium breadth, and make a good type of a reflexed Japanese bloom. Its colour is one of its important features, this being a rich golden amber suffused and tinted crimson terra cotta. Flowered freely from terminal buds, the plant will make a splendid late decorative sort.

Godfrey's Pride.—Full points were also awarded to this variety, the flowers being shown before the National Chrysanthemum Society on October 28 last. Like many others from the same source last season the colour is most striking, being reddish crimson with a bronzy buff reverse. The florets are long, of good breadth, and build up a large, loosely incurved Japanese flower. First-class certificate.

George Lawrence.—Another representative of the incurved Japanese type. In this case the florets are of good length, broad, slightly twisted

and curled, and make a bloom of good substance. The colour may be described as a unique shade of bronzy yellow. Awarded a first-class certificate by the National Chrysanthemum Society, October 28 last.

H. T. Burrows.—An English-raised seedling of considerable promise, the National Chrysanthemum Society's committee requesting to see it again. As exhibited on November 18 last it was a rather rough incurved Japanese, though from subsequent enquiries we hear it is a rather late sort, and therefore requires special treatment. Mr. H. Weeks says the plant requires stopping about the first week in April, the result of which will develop blooms that will be appreciated. The flowers are large, developing long and fairly broad florets, and the colour is a rich glowing crimson, with a bright, golden reverse.

Duchess of Sutherland.—This is a glorified edition of the richly-coloured *R. Hooper Pearson*, and there is no deeper or richer shade of yellow in the Japanese section than the latter. The florets are long, rather broad, developing a bloom of splendid substance, and well meriting the full points awarded to it by the National Chrysanthemum Society on November 11 last. First-class certificate.

General Hutton.—A variety of which antipodean raisers may be justly proud. As exhibited before the National Chrysanthemum Society on November 18 last, the flowers were very large and handsome, those from a late bud selection particularly so. The floral committee gave it an award of merit, but a subsequent free display of strikingly handsome flowers at the December show proved that it was deserving of higher honours. The florets are long, fairly broad, and develop a bloom of drooping form and of the largest size. An early bud selection gives deep rich yellow-coloured flowers; those, however, from a later bud selection being freely tinted and edged bronzy crimson. A special note should be made of this sort.

Arthur Kingsbury.—This is another variety of which a special note should be made, although there is a doubt whether Mr. Weeks will distribute it in the ensuing spring. The blooms will be valued for their neat and even form, and lovely deep rosy amaranth colour. Miss Evelyn Douglas resembles this variety in build, and is so charming for all purposes that it seems safe to predict an equally successful future for the variety under notice.

C. J. Mee.—A late-flowering Japanese variety

of drooping form, and represented by about a dozen good flowers at the December show of the National Chrysanthemum Society. On that occasion the floral committee gave this variety an award of merit. The florets are very long, of narrow to medium width, and notched at the ends. They are also neatly arranged, and droop evenly. The colour is a rich shade of deep yellow, and the plant is of sturdy habit, vigorous growth, and between 3 feet and 4 feet in height.

Walter Correll.—When exhibited on October 28 last the National Chrysanthemum Society's floral committee expressed a wish to see this variety again, and the chances are that another season it will be better. It is a large drooping flower, having pleasing twisting and curling florets. The colour is a very rich shade of yellow, and, although there are many other good new yellows, there is room for this one.

Dorothy Powell.—This is an English-raised seedling from the collection of a well-known amateur specialist. Unfortunately, the flowers were seen too late to achieve the success they deserve, but they are sure to be seen another season. The florets are long, broad, pointed, and incurving at the ends, and build up a large exhibition bloom of good substance. Creamy white is a description of its colour, with a richer shade in the centre. Height about 5 feet.

Katharine Eres.—Although the National Chrysanthemum Society's floral committee on November 11 last expressed a wish to see this variety again, there was sufficient merit in the blooms, as then exhibited, to encourage one to give the plant a trial. It is a large massive Japanese of good substance, developing from an early bud selection, creamy white tinted rose flowers. From a later bud selection, however, they are a soft, rosy violet colour.

Kimberley.—This variety was distributed last spring, and is therefore not so new as the others previously described. The floral committee of the National Chrysanthemum Society on October 28 last, however, awarded it a first-class certificate, and on the occasion when so many other really first-class sorts were shown. The colour in this instance is rich yellow, with a paler reverse. Florets long and broad, and of good length, twisting and curling, and building up a bloom of large size and good substance.

Mrs. G. Golden.—Handsome examples of this variety were adjudicated upon on November 11 last by the National Chrysanthemum Society's floral committee. It was the opinion that they were not unlike good blooms of *Australian Gold*, and for the same reason were probably passed over. They were more refined and pleasing in their finish than the variety referred to, and the plant for this reason should be taken in hand. The colour is pale canary-yellow, with a still paler reverse.

Albert Chandler.—This, too, was charming, and not unlike Mr. Louis Remy. There was a feeling, however, that the form was better and the colour a clearer yellow.

O. V. Douglas.—A large, deep exhibition bloom with long, twisting and curling florets, building up a flower of good substance. Colour straw yellow, with a richer coloured centre. The raiser says the form is very similar to *Calvat's '99*. Commended by the National Chrysanthemum Society, November 11 last. A natural first crown bud selection will suit this variety, which is an excellent one for large blooms in vases.

D. B. CRANE.

BOLD EFFECTS IN FLOWER BORDERS.

A MIXED flower border is often spoilt by the use of too many kinds of plants at a time. In a very small place there is every excuse for

this, for the owner may wish to have all his flower friends about him and has not room to group them largely; but too often in long stretches of flower border in quite large places one sees little dabs of a quantity of different plants, giving perhaps a certain brightness of colour, but fatal to any good effect. Such a border as that in the illustration shows the great advantage of a large and quiet treatment of large masses of plants. Here we see wide breadths of Flag Iris and some of the good border Campanulas and Roses in bold forms of bush and pillar, the whole thing full of interest and with the quiet dignity that goes with reposeful treatment.

HARDY FRUITS IN SEASON.

APPLE HUBBARD'S PEARMAIN.

As a dessert variety, ripe from Christmas to March, this Apple is distinctly valuable. As will be seen from the accompanying illustration, it is of the Pearmain shape, of medium size, and attractive appearance. The skin is usually of a yellowish green on the shaded side, and of a reddish brown on the side exposed to the sun. The flesh is yellow, firm, very sweet and sugary; one of the best flavoured dessert Apples we have. The growth of the tree is compact, and therefore suitable to be grown in bush or pyramid form in gardens of small extent. Although an old variety, it is not generally well known, and its cultivation does not seem to have extended to any appreciable degree beyond the eastern counties, where it is highly valued for its great excellence as a table fruit. This variety is a free and consistent cropper, and the fruits with care may be preserved in good condition well into the month of April.

BROWNLEE'S RUSSET.

This has the distinct merit of being one of the hardiest dessert Apples we have, succeeding well even in those counties and districts where many varieties fail. It is of medium size, distinct appearance, highly flavoured, sweet and juicy. Ripe from February to April.

GOLDEN HARVEY.

This is commonly called the Brandy Apple, and acknowledged to be one of the richest and best flavoured Apples. The tree is a prolific and certain bearer. The fruit is small and not of an attractive appearance. O. THOMAS.

PEAR BEURRE BACHELIER.

Mr. Addy has a note on this Pear on page 104 and asks for the opinion of others as to its quality in wet and cold seasons. Some years ago, when living in Nottinghamshire, I had a hedge of a cordon tree growing against a south-east wall. It succeeded well and bore good crops of large, handsome fruits, which were of sweet and refreshing, though not very rich flavour. So far as I remember it ripened as well in a cold, wet season as in a warm, dry one, and, had the tree occupied a sunnier place, the fruit would probably have been as richly flavoured as Mr. Addy's. The soil in which the tree grew was light and well drained. It is a very useful variety, and worthy of a place in every garden.

PEAR WINTER NELIS.

"G. W. S." is quite correct in recommending this Pear for culture in small gardens, as it bears freely and is not a strong grower. Added to this the quality is first-rate, and it keeps well till Christmas. At Coddington Hall, Newark, it does remarkably well both on east and west walls, the fruit often needing much thinning. I find that it requires a light, warm

soil, as in a garden a few miles from Coddington, where the soil is heavy, the fruit is small and often badly cracked, especially in wet seasons. "G. W. S." mentions that it succeeds as an espalier in the southern counties, and I remember seeing a healthy fruitful espalier tree in a garden near Bromley, in Kent.

J. CRAWFORD.

CORRESPONDENCE.

(The Editors are not responsible for the opinions expressed by their correspondents.)

HARDY EUCALYPTI.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—If Mr. John Bateman cares to extend his culture of Eucalyptus beyond the one species—Eucalyptus Gunnii—which he names, he will, I think, find several other species equally hardy. I have grown many species both in France and

England, and grown them from seed sent direct from Australia and Tasmania as well as from other sources, and I can mention two at least which I believe from experience to be quite as hardy as E. Gunnii. These are E. coccifera and E. urnigera. The former is especially beautiful as a contrast to E. Gunnii, being perfectly silvery in stem and branches and very glaucous in leaf. E. polyanthemus is fairly hardy, though not so much so as any of the three above mentioned. Robinson, in his "English Flower Garden," mentions this one, only as hardy, although it is really less so. I am not aware whether the old tree of it which stood so many years at Kew is still alive, but it was repeatedly killed to the ground by severe winters. About E. amygdalina I have some doubts, having had seeds sent me under this name, which have proved fairly hardy for twenty-five years, while the plants produced by seed of E. longifolia, which Robinson declares to be synonymous with E. amygdalina are by no means hardy, as they are cut to the ground by frost almost every winter. E. stricta is nearly as hardy with me as E. Gunnii, but not quite, as the top twigs often suffer from frost.

I have several others that have proved hardy, but I cannot give the names, as they were from seed that had got mixed, or, in some cases, were from seed sent me erroneously as E. Gunnii, it being notorious that two, if not three, species have been sent to England under that name. I have relinquished all hope of acclimatising E. globulus, as I have grown seed from Australia and also from parts of Tasmania, where there is considerable frost, and though some of these, especially the latter, have grown into trees of 40 feet or 50 feet high, they have all ultimately succumbed to some unusually severe winter. If Mr. Bateman should feel inclined to send me a few home-grown seeds of his E. Gunnii, I should very much like to grow a few to see if they are identical with the trees I have under that name. H. R. DUGMORE.

The Mount, Parkstone, Dorset.

THE BOTHY.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—It must be with a feeling of thankfulness that the occupants of the bothy see the columns of THE GARDEN opened for a discussion of the best means to procure for them a healthy, happy life during their time in the garden lodging. That the discussion is needed must be apparent to those who have visited bothies or have had to spend any time in them. For the bothy would seem generally to be the last place to be considered either by the gardener or the employer, and, as it usually gets neglected in the way of promised vegetables, so does it too in the way of social pleasure or horticultural enlightenment. The sketch of what a bothy should be, in the leading article of February 1, is complete, except that it omits any mention of the care for the sick and ill. In a good-sized bothy, if not in a small one, some preparation should be made for any who may fall ill. As a rule, to be ill, and have to be in the bothy is the thing most dreaded by the young men. For of all the miserable, lonely experiences, this is about the most wretched. A case comes to my mind where,



HUBBARD'S PEARMAIN APPLE (SLIGHTLY REDUCED).

in a bothy of ten, one member fell ill with rheumatic fever and bronchitis, and all the attention that the sufferer got was what the over-worked bothy woman could give in the day time, while his fellow-workmen had to attend to his wants at night, and this in a place considered palatial. An experience like this one does not want to have again; I think at least that an extra woman or nurse should be given in these cases.

A well-lighted room for evenings is most desirable, especially for those who love some form of study. Many bothies are at a disadvantage in this, the result being that all are crowded into one room, some playing, some talking, and some developing their musical talent, while the studious one either gives it up or retires to his cold bedroom to ponder shiveringly over the unkind arrangements of fate. A source of much pleasure and interest is a bothy "mutual," to meet once a week, especially if the head gardener is sympathetic and the employer has no objection to gardening friends being invited; or, in the case of several small bothies being near each other, some arrangement could be made to hold the meetings at the different

ones week by week. The meetings devoted to lectures or discussions could very well be relieved once or twice during the winter season by say a smoking concert or a musical evening, when the head-gardener and his wife and friends, or head-gardeners, wives, and friends, as well as the friends of the young fellows, could meet and spend a most enjoyable time. If the employer cared to subscribe, all the better; if not, well the outlay would not be very great.

To many the bothy is the least attractive part of the garden training, and many a spirited fellow either gets sick of its humdrum monotony and seeks more congenial if less elevating society, or leaves it altogether for something brighter; for the "bothyite" ought to share in the bettering that labour gets, and the comforts that the artisan and tradesman can get should not be denied to him, and bothy life should be made as homelike, as comfortable, and as elevating as it is possible to be. For, after all, the young men are lodged there for their employer's convenience, being on the place, and therefore more saving to his pocket than if he had to pay lodgings for them. The worrying rules that govern many bothies should be abolished or reduced—as being in at ten at night or else to get reported, or no friends from the neighbourhood allowed, or no singing or making a noise. These things jar on young men and make them restless and dissatisfied. Much can be done by kindly tact and thought both by the bothy occupants and by those for whom they work to make the time there helpful and happy. J. H. C.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—The Editors' article on "The Bothy," page 65, opens out a very large field of thought, and, as one who has had some few years' experience of bothy life, I would like to express my opinion. I well remember first leaving home to go in the bothy, rather a long way from home, 130 miles, and I always look back with some pleasure on my first bothy life; there was always plenty of work, but I did not mind that, as we had a good gardener over us, who gave us every encouragement. There were four of us in the bothy, but only two bedrooms and three beds; of course that made it necessary for two of us to sleep in one bed, which was none too comfortable; but I am pleased to say that when it was brought before the master another was quickly added.

I would like to ask—Do gardeners take full advantage of the power they have of helping those under them? Not all of them, I am afraid. I find, as a foreman, that I can get more work and better done by a word of encouragement than by a week's grumbling; not that the latter is not a necessary evil sometimes, but to be always grumbling is very discouraging. Personally speaking I have been very fortunate, having had the pleasure of working for men with large ideas, who have helped me over many an obstacle which disappeared with their kindly help. In conclusion, I would ask every gardener to take a pleasure in helping those under his care. I have made up my mind, come what may, that it shall always be my pleasant duty to help those under me. FOREMAN.

PEAR BEURRE BACHELIER IN WINTER.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—I cannot give the above Pear so good a character as Mr. B. Addy at page 104, as, though the last few seasons have been favourable for these fruits with us, it is only second-rate, but crops well. It must never be forgotten, however, that fruits satisfactory in some soils or localities are not so in others. Here is a case in point, as I should hesitate to include this variety in a collection of twenty-four if only flavour were considered, whereas the writer at page 104 would include it in the best half-dozen. I am gradually reducing the trees of Beurré Bachelier and substituting varieties of the type of Beurré Superfin and Doyenné du Comice. Several remarks in the note alluded to are well worth attention; it is recommended as a January and February Pear, which shows the great difference in its keeping qualities. Here (Syon) it

is certainly at its best in November, at Alnwick in the north it may be had much later, but even then its quality is not good. I am obliged to send dessert fruits long distances, and have found Beurré Bachelier the worst variety we have to travel, as though presentable when packed the least bruise results in rapid decay. Our fruits instead of being rich are poor though very juicy. As regards size and cropping qualities it is satisfactory; but here again our trees are in a thin light soil over gravel and Mr. Addy's on a good holding loam. This explains the want of flavour in our fruits and why they mature so quickly. Our best fruit as regards flavour are from pyramid trees on the Quince stock. Mr. Addy does not place Glou Morceau in the front rank for quality, but my experience is that it is better than Beurré Bachelier and later, but not of first-rate quality in the north of England. Near the coast it is much better, but needs a warm wall. Such information as Mr. Addy gives us is most interesting and shows the value of what may be termed wider information, and I hope it may be the means of other notes appearing in THE GARDEN on this subject. Flavour must always be a strong point, as it is most important in private gardens. G. WYTHES.

LILIUM GIGANTEUM IN AMERICA.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—Perhaps you will be interested in the culture of *Lilium giganteum* in America. I am not the only one who cultivates this species here, but so far have not heard of many who succeed with it, and would be very glad if some of your many subscribers in our Eastern States would correspond with me about it.

Last autumn I decided to try it here, and having selected the only spot which I thought suitable, I sent for a small selection of bulbs of various sizes, calculated to give flowering plants for successive years until the new off-sets should mature sufficiently to flower. After that we set to work to prepare the ground as follows: The site was a well-sheltered hillside sloping south, with tall Cedars and a few shrubs to the north, and a belt of Cedars further down the hill to the south and west sufficiently removed to admit afternoon sun—the morning sun being mostly shut out by my house.

After marking out a space of several yards square and excavating about a foot of soil, a solid bed of granite rock was found, but as I had sent the order for bulbs I could not turn back, so there was nothing to do but to blast. Some 10 cubic yards of solid rock were removed, and the bottom of the excavation so sloped as to secure perfect drainage, and then, following as near as possible the explicit directions in "Wood and Garden," I filled in with alternate layers a foot thick of rich bottom loam, sand, and decayed vegetable matter (herbage being the principal green manure available so late as November), and had it well chopped in and tramped down, layer upon layer, and the last 8 inches consisted of very rich sandy loam.

On October 26 I received notice that my bulbs had arrived and were in the Custom House. They were soon got home and found in excellent condition, considering the early season at which they must have been lifted. The largest was of a bright bottle-green colour, and about the size of a Coconut with the hull on, perhaps 15 inches or 18 inches in circumference, while the others varied in size—the smallest about that of a man's fist. These three sizes were calculated to furnish one or two blooming stalks, according to the circumstances of their growth, each year for three or four years, at the end of which time the young off-sets were expected to be coming on. They were planted immediately from 3 feet to 4 feet apart in an irregular clump, carefully surrounding each bulb with clear sand to prevent rot, and, to quote from the author of "Wood and Garden":—"They are planted only just underground, and then the whole bed has a surfacing of dead leaves . . . and also looks right with the surrounding wild ground."

Not being sure of success, as our climate is very severe in winter, and apt to be quite dry for some

weeks in midsummer, I was desirous of making my experiment with this Lily (of which one of our authors on bulbs and tuberous-rooted plants writes in very disparaging terms) as modestly as possible, and I think I economised too much, as three of the bulbs rather unexpectedly bloomed the first season, and there were only three left to furnish me with a succession of bloom for the remaining three years until such off-sets as I should have had matured. As the chances are slight of procuring off-sets from even the largest and most robust bulbs planted the previous season, and as yet not thoroughly established, I was pleased to collect two small but healthy off-sets, which are now growing on—but I am ahead of my story. By the last of March all the bulbs were up, but I found I had covered them up too heavily with forest leaves, which with a wet spring kept them too damp and close. Several of the spikes just appearing were slightly brown about the points in consequence, and part of the covering was removed.

Such a heavy winter mulch, designed to protect the unestablished bulbs from the severity of our winters, and the frequent freezing and thawing, which is worse, forced the smaller ones along too rapidly. By May they were 18 inches high, and did pretty well until about the first week in June, when, immediately after a prolonged wet season, the sun came out very hot and scorched them severely. Notwithstanding the caution in "Wood and Garden" to beware of their being reached by the morning sun, I had miscalculated its location, and through a small opening in the trees and shrubbery, in the right (or wrong) place, through which the early morning rays played upon their heads, the damage was done before I realised it.

Notwithstanding these several mistakes (recorded in the hope of their being helpful to those who, like myself, find the cultural notes on *Lilium giganteum* very scarce in garden literature) by the first week in July I had three stalks carrying seven flowers, and the tallest stood 6 feet 5 inches in its stockings.

Feeling amply repaid for the not inconsiderable expense and personal trouble of the experiment with this grand species of Lily, I was constrained to try again, so purchased last November of a New York seedsman half a dozen bulbs advertised to be three years old. On arrival in this place they proved to be quite too small to expect results in less than two years, so I was obliged to send a late order over for some three or four year old bulbs in addition, which I have just finished planting (January 10) in midwinter. Had not the ground been well covered with leaves and wire-netting, in the autumn, there would have been 6 inches or 7 inches of frozen earth to encounter (and more blasting). As it is they are carefully planted in earth as mellow as it is in September, surrounded with sand, and this time there are altogether twenty in various sizes, and it remains to be seen if they will furnish flowering stalks annually for five years.

FLOYD FERRIS.

Lawrence Park, New York.

THE SALE OF POISONS FOR INDUSTRIAL PURPOSES.

WILL you kindly allow me to bring under the notice of your numerous readers the action that is being taken by and on behalf of a number of important traders who are interested in the sale of poisons for other than medicinal purposes? Fruit growers, seedsmen, agricultural agents, farmers, and many others are concerned, and to some of these the subject of this letter may not be unfamiliar, while to others, who have not had their attention directed specially to it, it may be both new and interesting, as well as important.

To put it briefly, the question at issue is the right and the desirability of poisonous compounds required for trading and industrial purposes being sold by other than dispensing chemists and druggists. The latter possess, under the Act of 1868, the monopoly of all such sales, and occasionally the Pharmaceutical Society, acting on their behalf, institutes prosecutions for the recovery of penalties, with the object of asserting this monopoly; but



HYBRID TEA ROSE GLOIRE LYONNAISE AS A PILLAR.

(Photographed by Miss Willmott.)

as a matter of common practice, the law is not generally regarded as having the effect that the Pharmaceutical Society contends for, and many retail dealers habitually disregard its alleged intention—of course, at the risk of being proceeded against. It is for the purpose of relieving traders of this liability, and thereby meeting the convenience of the public at large, that an organisation entitled "The Traders in Poisons or Poisonous Compounds for Technical or Trade Purposes Protection Society" has been formed; and the action that this society is now taking, in the interests of all such traders throughout the country (and not merely its members), is what I am anxious to disclose to your readers.

The society, of which I have the honour to be secretary, was formed in March, 1900, since which date it has been very successful in organising the various traders who are directly concerned in the sale of poisonous compounds for industrial purposes; upon the eve of the last General Election it communicated with most of the Parliamentary candidates, and 90 per cent. of the replies received were favourable to the society's objects. Briefly put, the object is to secure an amendment of the existing law. Those traders who are continuing the sale of the various articles in which they have been accustomed to deal will be gratified to learn that effectual and energetic steps are being taken to vindicate their position and secure their immunity from prosecutions. This is largely due to the great and sustained interest taken in the Protection Society by its treasurer (Mr. G. H.

Richards), whose strenuous exertions have done much to inspire confidence in the classes of traders who are directly concerned in this subject, and who may confidently rely upon a continuance of energetic action on their behalf until the object is attained.

There are many reasons why the Pharmacy Act of 1868, already alluded to, should be amended. In the first place, it is evident, from the preamble, that it was intended more particularly to ensure the safety of the public, by insisting that only competent persons having practical knowledge of the properties of poisons should have the dispensing of the same. That is reasonable enough; but in the days when the measure became law there were not in existence the multitudinous packages and bottles of preparations, compounded by the manufacturer ready for immediate use, for horticultural, agricultural, and other trade purposes, which are now to be met with all over the country. As regards these the ordinary chemist and druggist has no more practical knowledge than the man in the moon. The manufacturer tells him and the public at large, by advertisement, that this or that mixture, or sheep dip, or powder, is an excellent remedy for this or that disorder, and the purchaser, like the chemist, takes it on trust for some specific purpose, the chemist

being merely the channel through which the manufacturer reaches the customer. There is no skilled practical knowledge of poisons required to dispose of a sealed packet or vessel which the chemist receives from the manufacturer, who alone undertakes the responsibility of declaring that a compound of poisonous articles of a certain strength is effective for a certain purpose. The purchaser might just as well buy what he wants from any other tradesman so far as the skilled knowledge of the chemist is brought to bear upon the article disposed of. Indeed, in most cases it would be distinctly advantageous to the buyer if he went to some person who had practical experience of the preparation required. Take, for instance, the case of an insecticide (such as XL All) containing poison. Would not a seedsman or horticultural agent be more likely to give valuable advice to a purchaser based upon practical experience than a chemist, whose principal employment is the dispensing of drugs intended to cure all the ills that flesh is heir to? The one has probably used the poison himself, and is in a position to say how best to apply it; but the chemist would from his different occupation have had no opportunity of acquiring such knowledge.

The same argument applies to sheep dips, weed killers, &c. If there is any risk to public safety involved in the proposed freer sale, it is not increased by disposal through a seedsman, not minimised by being handed over a chemist's counter. Again, how few pharmacists have the most remote knowledge of the best means of

destroying aphids, mealy bug, or mildew—so destructive to the fruit grower—compared with the seedsman or agricultural agent? The new vapourisers and insecticides which have come into such general use in recent years have been invented by members of the horticultural trade, and people who are accustomed to their application are naturally the best advisers of purchasers—not chemists, who know nothing of them beyond the label on each packet. Indeed, the skilled knowledge of the pharmacist, which may be of the utmost service in making up a bottle of medicine for a human being, is not brought into use in the sale of a sealed packet or vessel; hence the very reasonable demand that the sale of poisonous compounds for purposes already indicated shall not be confined to chemists and druggists, but be legally extended to other tradesmen, who can then meet the convenience of the public without incurring risk of prosecution. A measure such as is contemplated would also enable photographic requisites containing poison to be sold by others than chemists.

It is to the benefit of traders in all parts of the country that the society to which I have referred is exerting itself, and I am glad to inform you that the reasonableness of its demand has been admitted by the Privy Council, who last year appointed a poisons committee to investigate the matter and report on the evidence submitted to them. Already that committee has held three sittings, at which witnesses were heard on behalf of the Pharmaceutical Society on the one hand and our Protection Society on the other, besides some independent skilled and departmental witnesses, and there is good reason for believing that the committee may recommend the adoption of a third schedule to the Pharmacy Act, which will provide where poisonous compounds are sold in sealed packages for agricultural, horticultural, disinfecting, and other trade or technical purposes, by persons other than chemists, who shall be duly licensed, and, being respectable and responsible individuals, they shall be lawfully entitled to sell such articles. It must be understood, however, that this desired result can only be obtained by the traders concerned bestirring themselves and bringing pressure to bear upon the members of Parliament in their respective districts, pointing out to them the desirability of the Government being urged to bring in an amendment Bill for the purposes above indicated.

For every fully qualified chemist there must be a large number of agricultural agents, horticulturists, seedsman, oil and colourmen, ironmongers, hardware dealers, and the like who would benefit by an amendment of the law, which enabled them to sell, without fear of prosecution, many articles in great demand in town and country alike. I therefore hope that this trade protection society will receive their cordial support. Allow me to add that we in no sense advocate, or desire to bring about, the indiscriminate sale of poisons. We urge that all retailers of them should be registered and licensed, and that those who are not pharmacists should sell only in sealed packages or vessels, without breaking bulk. By these precautions being observed we contend that the public safety would be safeguarded quite as much as it now is, while the public convenience would be vastly increased. If other information is desired on this important subject it will be readily furnished by

THOMAS G. DOBBS, Secretary.

24, Sansome Street, Worcester.

P.S.—Since writing the above, according to the *Chemist and Druggist* (the trade organ of the pharmacists) of the 25th ult., it is admitted, to use their own words, "That the report of the Poisons Committee of the Privy Council will be to some extent opposed to the Pharmacy Act view of the sale of poisons."

H.T. ROSE GLOIRE LYONNAISE.

THE more free-flowering of the Hybrid Teas are among the best of Roses for pillars of moderate height. The fine Rose shown in the illustration is in a garden in France, but so

many of the Hybrid Teas are grand Roses with us that, though it is not a Rose so well known in England, there is every likelihood of its doing well. It should be noted that in poor soils, where the H.P. Roses cannot be grown, and where many of the Teas are partial failures, the greater number of the Hybrid Teas do well.

GARDENING OF THE WEEK.

INDOOR GARDEN.

ERICAS AND EPACRIS.

SPECIMENS of these cut back after flowering and now commencing to make new growth should be potted in good fibrous peat with plenty of sand to keep the soil open; the peat should be broken up into small lumps, the roots should not be disturbed, and great care is necessary in removing the crocks. The ball of the plant should not be placed too low; should the stem of the plant get buried, these subjects are sure to suffer, efficient drainage must be given, and the new soil very firmly rammed round the ball. Water should not be given for a few days, but they should be lightly syringed overhead. In watering great care must be taken that only soft water is used. The plants should never be allowed to become dry at the root, but too much water will be found to be equally injurious. They dislike fire-heat, and it should only be applied to keep out the frost or dry up damp. These plants are generally considered very difficult to grow, but if proper care is taken in potting and watering, and not too much fire-heat applied, they will be found to amply repay the care and attention bestowed upon them. Unfortunately, one seldom sees a collection of Heaths and Epacris nowadays in good condition, although they are of the most attractive and useful hard-wooded winter-flowering plants.

GLORIOSAS.

These bulbs will now require potting, and care is necessary as the roots are very brittle. The most suitable soil is a mixture of fibrous peat, loam, leaf-mould, and sand, with well decomposed sheep manure added. After potting, place in a stove temperature and withhold water until they show signs of growth. When growth has well begun we have found this climber to succeed best in an intermediate temperature, and they have also flowered well in a greenhouse. When subjected to a stove temperature in their flowering season one often sees them infested with thrip and red spider.

ASPIDISTRAS

that require repotting or dividing may now be taken in hand, using an open compost of loam, leaf-soil, and sand, with good drainage. Give them stove temperature until they are established in the fresh soil, after which transfer to the greenhouse. Successional batches of Hyacinths, Tulips, Narcissi, Gladioli, Ixias, Sparaxis, Spireas, and Lilium longiflorum should be placed in a warm house to bring them into flower. Seedling Solanums as soon as ready should be potted into 3-inch pots in a mixture of loam, leaf-soil, and sand; place them near the glass, and syringe morning and evening. When the plants are about 4 inches high the leading shoot should be taken out; this will cause the plants to break freely.

SALVIA

when rooted may be potted and kept in warmth, syringing and shading from the sun. Afterwards place them in a frame and give plenty of air and full exposure to the sun; keep them well stopped. Cuttings should be inserted from now until June, according to the demand for small decorative plants.

JOHN FLEMING.

Wexham Park Gardens, Slough.

FRUIT GARDEN.

PEACHES AND NECTARINES.

The borders of early forced trees that have passed their flowering stage should be examined, and, if

found to need water, a thorough supply of tepid liquid manure should be given. That from the farm-yard, when discreetly used, suits the Peach and assists to swell its fruit; but powerful applications of it, and, indeed, of any manure, are undesirable, inasmuch as they promote gross wood, and are liable to cause stone splitting of the fruit. The night temperature may now, except in severe weather, stand at 55°, with an increase of 5° by day by artificial means. Carefully ventilate early on bright days, avoiding cold draughts, and close early enough in the afternoon for the thermometer to rise to 65° or 70°; the trees should then be well syringed. Thinning the fruit, especially where thickly set, must be commenced early, allowing the strongest shoots to bear the most fruit, and leaving a surplus until the latter is freely swelling, but finally thinning if the trees are satisfactory in health before the stone begins to form.

DISBUDDING

must likewise receive early attention by operating upon the weakest wood first, and after steady progress, in order to avoid a check to the trees, complete it in a manner that will prevent the crowding of growths, and yet secure a suitable one at the base and point of each shoot. The routine work in successional houses will be similar to that previously recommended for early trees, while late houses should still be kept quite cool.

BANANAS.

Suckers of these that have well filled the pots with roots should without delay be transferred to their fruiting quarters, which may either consist of efficiently drained beds about 2 feet 3 inches deep, large tubs, or some similar convenience. If this plant is given a temperature suitable to ordinary stove plants it is easily managed and makes rapid progress. It succeeds in a compost of ordinary loam, decayed manure, leaf-soil, or peat, but requires stimulating liquids and plenty of tepid water after the compost is well filled with roots in order to ensure robust growth and the production of large clusters of fruit. It is not necessary to frequently replenish beds with fresh compost, and undisturbed suckers pushing from stools may be satisfactorily made to take the place of growths that have fruited. On account of its dwarf habit, Musa Cavendishi is the variety usually cultivated for edible purposes.

CHERRIES.

An important point in the management of this fruit when grown in pots is to get the trees well established, and any treatment that affects their roots, such as repotting, rectifying of drainage, or top-dressing, should be attended to early in the autumn. In the case of trees of this description, as also with cordons or others that are permanently planted in borders and trained to trellises, all the light possible should be afforded, and consequently in arranging the trees, or in the training of branches, crowding must be guarded against. The Cherry is impatient of high artificial temperatures as well as close atmospheres, 50°, and in severe weather 45° will suffice. T. COOMBER.

The Hendre Gardens, Monmouth.

THE FLOWER GARDEN.

NOTWITHSTANDING the deep-seated antipathy to growing anything but Roses in a rosary or a Rose bed, it is now generally allowed that the use of any light-rooting bedder for the summer months is in no way inimical to the Rose, while the effect is much improved. There is no doubt that rosaries in the past lost much by the beds being too thinly planted and the display of flowers marred by the unsightly manure and bare ground below them. There is nothing beautiful in bare earth, and the care of the flower garden—at least, in the summer months—should be to have every particle of the ground in the garden hidden from view by plants of some description.

IN THE ROSARY

the surface of the beds should be planted in April or May in order to be well covered when the Roses come into flower; these dwarf plants may be cleared at the end of September, when a heavy

mulching of manure makes good the additional drain upon the resources of the soil during the summer. Last year in the rosary I used Lobelia, Gazania, and Phlox Drummondii as surface bedders, and with very good results. It is always difficult to harmonise blue with other colours, but the Lobelia as a foundation for copper-coloured Roses like Ma Capucine, l'Idéal, and others proved very effective. The spreading Lobelias, like speciosa and paxtoniana, are the best for this purpose, and are easily raised by thousands from seed. Gazania splendens, with its bright orange-yellow composite flowers, is a capital plant for placing under strong-growing yellow Roses. Unfortunately, the Gazania is only half hardy, and it is necessary to strike cuttings every autumn, but once rooted, which is easy to do, they only require protection from frost to keep them safely through the winter.

PHLOX DRUMMONDI

is a splendid plant for covering the ground underneath Roses, but it is necessary to go over them at least twice a week after they are established to thin out growths and peg them down, otherwise their vigorous growth would soon prove detrimental to that of the Rose by their completely smothering the weaker-growing ones. If well attended to, Phlox Drummondii in its different shades of colour is an excellent plant for this purpose, and the effects I obtained last year with it were much admired. Seed may be sown in a cold frame in two or three weeks' time, the plants from which will be ready for planting out at the end of April. This year I intend to make use of

PANSIES

to cover the Rose bed surface, and I have just raised thousands of seedlings in many distinct colours with that idea in view. The seedlings, though a little later in coming into flower than plants raised from cuttings, will be in full bloom by the end of June, and in time to enhance the beauty and wealth of the Rose display. Seed can now be obtained so true and good in quality that it is a waste of labour and frame room to strike cuttings and keep stock during the winter unless it is for some special purpose. To be successful in raising seedlings, sow thinly in boxes to avoid damping off, and, when strong enough, prick the seedlings out into a frame of rich moist sandy soil in a cool part of the Melon yard, giving each plant plenty of room to develop. Seed should be sown at once and the beds gone over three or four times during the summer, all decayed flowers and seed-pods being gathered off. Give water during dry weather, and the plants will continue fresh and bright throughout the summer.

HUGH A. PETTIGREW.

Castle Gardens, St. Fagans.

MISCELLANEOUS.

A SWISS HOLIDAY.

PERHAPS the end of June may be considered the most enjoyable time to visit the flowers on the Alps, but I venture to think that even August and September give almost equal pleasure to the plant lover. I have seen at the end of August Silene acaulis, Myosotis rupicola, and Saxifraga oppositifolia in full beauty at 10,000 feet elevation. But in June every meadow or grassy slope seems as brilliant as any flower garden with blues and yellows and pinks. The well-known "Rigi" had many delights for me. Ranunculus alpestris, white as snow, seemed everywhere, and multitudes of little patches of Gentiana acaulis (I never saw any large clumps on my journey), close to Primula auricula and Primula elatior were gorgeous. Many Dianthi, Saxifrages, &c., were also found. Mount Pilatus was almost clothed with quantities of Myosotis rupicola at its very best, Papaver alpinum, Linaria alpina, and Solda-

nella alpina. *Anemone alpina* was rather scarce, but on the steep rocky banks was more abundant. Nothing in my journey pleased me more than the Giant *Anemone sulphurea*. Near the Ober Alp Pass there appeared about two acres of them, so thick that the ordinary meadow flowers were quite weakened through such vigorous development. Many of the stems were 2½ feet high, and such an array of big sulphury yellow flowers! A very pretty pink plant *Pimpinella magna* var. *rosea* was showy and like a pink Meadow Sweet in the higher pasturages on the Stanserhorn.

Soldanella pusilla, so rare and beautiful, was thick with its large solitary nodding bells nestling in the melting snows on the high

noticed on the road from Fayet to Chamounix a very beautiful *Equisetum*, the fineness and elegance of the green whorls being most striking. I failed to lift a root of it well. *Asplenium septentrionale* clothed the crevices of the great rocks, some of the tufts being 8 inches or 9 inches across. Mont Le Brevin, on the opposite side of the Mont Blanc range, was delightful. Gentians, *Saxifragas*, *Ranunculi*, brilliant blue Pansies, *Geum montanum*, and an *Anemone* which seemed halfway between *A. sulphurea* and *A. alpina*; the flower was yellow, with a faint light blue reverse to the petals, and a host of pretty things.

At Zermatt I was much charmed with the great abundance of the true *Thalictrum adianthifolium* between the stones on the Alpine path towards the Matterhorn. High up near the great Mont Rose Glacier, on level places in granitic sand, were little colonies of *Androsace glacialis*, in full flower, only half an inch high; the little tufts seemed not to grow to a large size, the largest being only 2 inches in diameter. These must be of an almost annual nature, as the larger tufts seemed exhausted by flowering the previous season; but I should not think these high alpine are above the snow more than four months and covered the other eight, hence they cannot be successfully cultivated. Near also was *Ranunculus glacialis*, looking out of the rocks on every side, with its large rosy white stars; lower down, at 7,000 feet, *Androsace vitaliana*, *Anemone bavarica*, *Azalea procumbens*, and *Saxifraga oppositifolia* formed the flower covering, with numerous other *Saxifragas*, &c.

A beautiful blue and interesting *Orobanchus* was perhaps the most beautiful

hardy plant I saw that was new to me, growing about 15 inches high, with very narrow and glaucous foliage and an abundance of flower-spikes of a rich blue. Several plants were secured, as I feel certain it must be rare in England.

A day spent in the Alpine garden of M. Correvon, at Bourg St. Pierre, well rewarded the patience required to get there. It is an ideal mountain spot for the purpose. Many rare alpine, almost unmanageable in the English climate, were in splendid health. The ordinary alpine were in no better health than we see them in England. An enjoyable trip was agreeably concluded by a visit to Messrs. Froebel's nursery at Zurich, where a great collection of the rarer alpine was in excellent

condition, and finally a few hours in Max Leichtlin's famous garden of treasures of untold value.

Christchurch.

MAURICE PRICHARD.

CISTUSES AND ROSES IN THE ROCK GARDEN.

WHEN a rock garden is on a scale large enough to admit of the use of bushes, among these should be some of the Roses, preferably those either of neat foliage or of long-continued bloom. The Briars are excellent for such use, because, though the blooming season is short, the foliage is so neat and the whole bush so pretty that even in winter it is a pleasant thing to see. The *Rugosas* and their hybrids, from their long season of bloom and their well-sustained foliage, are admirable rock garden shrubs. As a rule the suitable species, and Roses not far removed from species, such as have single or half-double flowers, are the best for such places. Among these may be mentioned *R. beggeriana*, *R. humilis*, *R. lucida*, *R. lutea*, *R. spinosissima*, and *R. wichuriana*. *Cistuses* are also among the best of shrubs for a rock garden in the southern parts of England.

LILY PONDS.

MR. EDMUND D. STURTEVANT, Los Angeles, writes in the *California Floriculturist* about Lily ponds: "The simplest arrangement for growing water plants is a collection of large tubs or half hogsheads, located in a sunny position and partly filled with soil. A much better plan is to make a pool by excavating the ground 2 feet or 3 feet. The walls should be made of brick, stone, or concrete, and the bottom covered with concrete, using cement for all the work. There should also be a waste-pipe at the bottom with a stand-pipe for overflow. In a basin 8 feet or 10 feet across quite a variety of plants may be grown, using wooden boxes or shallow tubs to hold the soil.

"Those having fountain basins in their grounds can utilise them in the same manner. It is not necessary that there should be a continuous flow of water, but during the growing season enough should run in each day to prevent stagnation and to keep the plants in health.

"While most Water Lilies will flower freely in contracted quarters, they will attain greater perfection, with much larger flowers, if they have abundance of room both for the roots and the leaves. Basins 20 feet to 30 feet in diameter, or even larger than this, are desirable for growing a good collection. In growing the Lotus in the same basin with Nymphaeas care must be taken to confine the roots of the former to a given space, as it has the habit of spreading in all directions.

"The majority of water plants are gross feeders, and it is well nigh impossible to make the soil too rich for them. It is not necessary to go to a swamp or a natural pond to obtain what is suitable. It can be prepared upon your own premises. Any soil which will grow good vegetables will, if properly enriched, grow aquatics. A compost consisting of two-thirds good loam and one-third thoroughly decayed manure is what we recommend. If you have a black friable loam, which is intermediate between adobe and sandy loam, it would be excellent for the purpose."

DESTROYING INSECT PESTS.

EARLY spring is the best time to wage war upon the many depredators that infest all plant life, because at the time new growth is pushing forth insects are also becoming active and increasing at an alarming rate. A small amount of labour bestowed upon their destruction at this time will undoubtedly save much later on.

Black and green aphids are very troublesome on various fruit trees, also on Roses and other flowering plants, and if they are not dislodged early



CISTUSES AND ROSES IN THE ROCK GARDEN.

In the left lower corner *Cistus hirsutus*; middle, *Rosa alba*; to right, *R. rugosa* Mme. Georges Bruant. (From a photograph by Miss Willmott.)

mountains near Engleburg. Going up from the valley the forests seemed rising out of a carpet of *Spiraea Aruncus*, which on observation appears a very variable plant. Then whole slopes with broken rocks were green with *Veratrum viride*. I found Geneva extremely hot, scarcely a place where Alpine plants would flourish, but there is mountain air near. M. Correvon's garden had many rare plants in the best of health, little wooden shades being put up over the young plants to screen them from very fierce sun. *Eritrichium nanum*, *Silene acaulis*, fl.-pl., *Falkia repens*, *Mulgedium Bourgei*, with blue flowers like those of the Chicory in shape and colour, on branching stems, *Clematis heracleefolia*, Crested Bracken, &c., were interesting. I

the season's crop of fruit or flowers will be ruined. Red spider is a most noxious pest, upon fruit trees especially, and whether the trees be under glass or on walls in the open a thorough syringing should be given whilst the trees are yet resting, for then the insecticide may be used much stronger than would be safe later on when tender buds are bursting.

Caterpillars and grubs frequently infest Roses, Gooseberries, &c., and these should be caught with the hand and burned. Insecticides are of but little use for exterminating caterpillars, therefore hand picking them early in the season must be resorted to and followed up closely before they obtain a strong hold. The soil may be taken away from beneath trees infested with caterpillar last year to the depth of 2 inches, and doubtless this will ensure the destruction of numberless eggs, and these usually remain immediately beneath the trees until spring, when the larvæ are hatched out and ascend to the foliage. Other pests will be lurking in sundry hiding places, and as the season advances they will cause a great amount of trouble to the gardener if measures are not at once taken to extirpate them, or, at any rate, check their progress. Some very simple remedies are effectual; for instance, hot soapsuds syringed on the affected trees with force in the evening or on a dull day will dislodge large numbers, besides making the foliage distasteful to any that may be left.

Insecticides there are in abundance that may be used. An occasional dusting with soot over certain trees and plants when a slight dew is on them sometimes checks the progress of certain insects and does the plants good. It may be syringed off with clean water after a day or two. Quassia Extract is a capital insecticide, as it makes the

foliage distasteful for a long time after its application. A good syringing with quassia over Gooseberry trees will make the dormant buds so distasteful to birds in winter that they will not touch them for some time after its application. I usually dust soot on the trees immediately afterwards, when it adheres to the branches, and I find it keeps birds to a great extent from pecking out the buds.

Stoneleigh.

H. T. M.

THE FLOWER GARDEN.

SALVIA SCLAREA.

I CAME across a big break of this plant last year in a Buckinghamshire cottage garden where it was known under its old-world name of Clary, the owner being somewhat inclined to regard my plant knowledge as faulty when I referred to it as a Salvia. A little chat on gardening matters, and especially enquiries as to the reason for the Clary monopolising so large a space, led to the information that it was largely grown in the immediate neighbourhood for wine making, and, presently, over a pipe in an old-fashioned summer-house, I tasted the wine of 1900. Like all wines made from flowers it is light and refreshing, with an unpronounceable flavour that is not unpleasant. A reference to a well-known garden dictionary gives its introduction as 1562, but on the matter when its wine making properties were first discovered the authority is silent.

PENTSTEMON BARBATUS COCCINEUS.

This is one of the best of the small-flowered Penstemons, and should find a place on all hardy plant borders; the long spikes of coral red flowers retain their freshness both in the open and when cut. In the latter form it may be associated with Gypsophila or long sprays of the Tamarisk, and on the open border it forms a good companion to clumps of Pinks or Carnations, Veronica incana, blue Campanula, or early dwarf Starworts. Plants may be raised from seed or by division, and established clumps divided and renovated any time from November to February when the weather is open.

E. BURRELL.

GRASS WALKS AND HARDY FLOWERS.

THE accompanying illustration needs few words. It shows the happy association of shrub, hardy flowers, and grass path, the shrubs giving just that note of colour necessary to the picture. It is a garden scene full of quiet charm, and photographed by Mrs. Deane. It is possible to make such a feature as this in the garden at little cost, but careful grouping is needful.

PRIMULA OBCONICA AS A BEDDING PLANT.

In a recent issue was given an illustration of this Primula, with accompanying notes, and these should help to make it more popular. Referring to the poisonous effects of this plant, I may say I have been growing it for more than twenty years, handling them in every way, and I have never had the slightest cause to complain of it in this respect. Last year we had plants out of doors all the winter without the least protection and flowering freely all through last summer. They were in a situation exposed to the east, but under the shelter of an old Laburnum tree, and the soil is of a dry nature. I had tried it in various ways in the open before, but not with such good results. Undoubtedly in sheltered gardens along the coast it would flower more or less throughout the year. In such situations it may be used as a permanent plant in the open garden.

In the notes accompanying the illustration the writer sets forth its claims so well that I intend to only refer to his remarks as to its capabilities as a bedding plant. It was there stated that it was used on the continent for this purpose, and its use was advocated in this country. This induces me to give my experience of it during the last six or seven years. I required plants for our ornamental garden that would continue to flower well into the autumn, not seriously suffer from frost or rain, and that would not need much attention during the summer. This induced me to try *Primula obconica*, which I did in a small way at first in the kitchen garden borders. So pleased was I with it that every year since I have grown it more or less. Last year we had about three hundred planted out; mostly used as a bordering to a long border, with yellow *Calceolarias* immediately behind, and the background filled with Penstemons, autumn-blooming *Chrysanthemums*, *Antirrhinums* (sown in spring), &c. In this way the display was kept up till frost destroyed the blooms. It is excellent as a ground covering for large beds with such plants as Penstemons, Scarlet Lobelias, yellow-leaved *Abutilon*, and other things planted thinly amongst them.

As to raising the plants to have them large enough by the middle of May, we find it best to sow seed in October, and when the seedlings are large enough to handle they are pricked off either into pans or shallow boxes, keeping them in a temperature of about 50°. By March they will be large enough to place in boxes about 3 inches apart; when established they should be placed in frames and hardened as the season advances, planting them from these boxes at the usual bedding-out time.

J. CROCK.

THE SWEET PEA.

THE Rev. W. T. Hutchins, the author of what is probably the first book dealing with the improved forms of the Sweet Pea, entitled "All About Sweet Peas," and a book published in New York in 1893, says of the flower that it is "queenly in all its habits. Its favours are unbounded to those who make a conquest of its culture, and there are no florists secrets to bring it into most luxuriant bloom. It laughingly says, 'Win me if you can,' and yet there is a sweet condescension in its nature that makes it take as kindly to the cottage garden as to the skilled culture of the mansion grounds." In this delightful little book, so full of admiration for the fragrant flower, we have the idyll of the Sweet Pea.

It is not a little remarkable that the Sweet Pea should have been cultivated in this country for nearly 200 years before any attempt was made to cross fertilise it with a view of augmenting the varieties. What improvements were made took the form of selections of decided colours, and it was not until 1817 that mention is made of a striped variety, which



GRASS PATH WITH BORDERING OF HARDY FLOWERS.

doubtless originated as a sport. In 1837 James Carter, of High Holborn, offered a yellow form, but it did not appear to find its way into seed lists. In 1860 came a distinct advance in the form of a variety bearing the name of Blue Hybrid. It is said to have come from a cross made by the late Colonel Trevor Clarke between a white Sweet Pea and the "perennial bright blue-flowered Lord Anson's Pea." A form of it subsequently became known under the name of Butterfly, the flowers being white, with a narrow beading of bright blue on the petal edges. In 1865 appeared Scarlet Invincible, an improved and enlarged form of the common Scarlet. Three years later Crown Princess of Prussia was announced; it was of German origin, and was of a light fleshy pink tint. Five years later Fairy Queen, a lilac variety, also of continental origin, was distributed. Later appeared Invincible Striped, and a red striped variety named the Queen. The greatest gain came in 1880 when Violet Queen appeared, and a little later Adonis and Carmine Rose, both of which there is reason to believe originated as sports. The new Carmine Rose followed soon after, probably a selection from Adonis.

The first cross fertilised Sweet Pea obtained by the veteran Henry Eckford was an epoch-making flower. It shares that honour with the Fancy Pansy, Japanese Chrysanthemum, Clematis Jackmanni, Dahlia Juarezii, Begonia boliviensis, and Hippeastrum pardinum. Every one of these opened up to view a vista of possibilities, which were followed up by enterprising florists, and they produced unimagined results. Since the celebration of the bicentenary of the introduction of the Sweet Pea to Europe an enormous impetus has been given to the sale of the leading named varieties. The provincial trade were made acquainted with the sorts it is most desirable to cultivate, and instead of purchasing the common mixtures as they did previously, they now order named varieties and make their own mixtures, to the great gain of those who purchase and cultivate.

The modern large flowered Sweet Peas in many fine varieties are largely due to the labours of Henry Eckford. Nearly half a century ago the well-known florist was at Colleshill, Faringdon, raising Dahlias, Verbenas, zonal Pelargoniums, &c. Subsequently, as gardener to Dr. Sankey, at Sandywell Park, Cheltenham, and afterwards at Boreatton, Baschurch, Salop, he was ever active as a cross fertiliser, and while at Sandywell Park he commenced the work of crossing for new varieties, which he carried on afterwards at Boreatton, when still with Dr. Sankey; and in later years at Wem, where he established himself in business as a Sweet Pea specialist. The material with which Henry Eckford worked were the common forms, and the white, scarlet, black, Painted Lady, and Butterfly. Subsequently he obtained such sorts as Adonis, Crown Princess of Prussia, Violet Queen, and Invincible Scarlet, and was soon producing and blooming cross-bred seedlings. In 1882 Mr. Eckford obtained his first certificate of merit for Bronze Prince, a variety which was distributed by Mr. William Bull, but which proved variable owing to its character not having been fully fixed before it was sent out. During 1883 and onwards, Mr. Eckford produced varieties in succession, which it is not necessary should be detailed, as they can be found in most seed catalogues.

Meanwhile the late Mr. Thomas Laxton was also engaged in raising new varieties. In 1883 he secured a certificate of merit with Invincible Carmine, and to him we owe such varieties as Etria, Mme Carnot, Invincible Blue, Carnien

Sylva, and Rising Sun. On Mr. Laxton's death at Bedford, his sons and successors took up the work, and they distributed Princess May and Sultan.

The result of adding to the varieties has been much variation in shades of colour and the securing of combinations of colours, in increased size and substance of the bloom, in securing for the varieties better methods of cultivation, and in illustrating not only the many ways by which the flower can be utilised in the garden, but in demonstrating its value as a decorative agent in a cut state. In America, as here, the Sweet Pea has "caught on," and several new varieties have been distributed by Messrs. W. Atlee, Burpee and Co., seed merchants, of Philadelphia, and by other raisers; but a huge industry has been developed in some of the states, and notably in California, where huge tracks of ranches have been employed for growing Sweet Peas for seed purposes.

The Cupid Sweet Peas—of singularly dwarf compact growth—came originally from the United States. The original form has now increased to quite a number of varieties, and it may be said that many of the tall growing varieties have been reproduced in Cupid form. The Cupid varieties have a tendency to drop their buds—some varieties more than others; they seed but sparingly, and they are remarkably sportive, and so considerable time is required to fix a type. Efforts are being put forth to counteract the tendency on the part of the dwarf varieties to drop their buds, and already with some measure of success.

The bush Sweet Pea is a recent development. The plants are reduced in height, but send out a number of shoots which impart a bushy character to the plants; but it is doubtful if it will become a popular type. R. DEAN.

(To be continued.)

OBITUARY.

MR. H. SELFE LEONARD.

It is our painful duty to put on record the death of Mr. H. Selfe Leonard, which occurred a few days ago in Rome, the result of an accidental fall. A man of good social standing, Mr. Leonard's great interest in hardy plants, and especially mountain plants, had led him to take up the growing of them as the work of his life. His remarkable energy and strong business capacity enabled him to build up a sound horticultural establishment, now well known as the Guildford Hardy Plant Company. At shows of hardy plants his exhibits stood out among others, not only for the excellent culture of alpine plants, but for the unusual taste shown in their arrangement. Many a useful note and article on hardy plants came from Mr. Leonard's pen and may be found in the former volumes of THE GARDEN and in the Journal of the Royal Horticultural Society. Mr. Leonard's cheerful and vigorous personality will be missed at the meetings of the Royal Horticultural Society and at the other horticultural gatherings that he was wont to attend, and still more among a large circle of friends and country neighbours.

One who knew Mr. Selfe Leonard well writes:—"The sad duty of placing on record the death of this highly-esteemed and well-known gentleman is rendered doubly sad by reason of its tragic suddenness. It would appear that Mr. Leonard, while staying at an hotel at Rome, was ascending by one of the lifts, and, from some as yet unexplained cause, fell and received such injury that he died shortly after. Another report, equally short, attributes the terribly sad occurrence to a fall upon the stairway. Mr. Leonard was in London only a few days ago in his usual health and vigour. Well read and widely informed on many subjects, Mr. Leonard was naturally at home in

respect to alpine and most hardy plants; and, indeed, it was here that the writer came mostly in touch with him. His travels abroad, noting the different habitats or rock formations upon which rare plants were found, gained for him much information on the subject of alpine plants, more perhaps than his hill garden at Guildford on the chalk would permit his carrying out in detail. All the same, his collection of plants, perhaps, rather than his garden, as such, was always interesting, particularly in the spring time, when so many alpine plants, happiest in our English lowland gardens, burst into bloom. His oft-repeated "Come down and have a look" was accepted now and again, and at such times he displayed the keenest interest in his plants. Of one plant alone I may now speak, and having received and raised a unique stock from the surviving fragments of a large importation, Mr. Leonard was justly proud. This was Saxifraga hursleriana major, of which, I believe, he said at least 5,000 flowers had been open at one time. The plants alone formed a beautiful sight, for the variety mentioned is no ordinary one. The letters Mr. Leonard contributed to the horticultural Press were full of interest and characteristic of his keen insight and judgment. At a member of the floral committee of the Royal Horticultural Society, his opinion was much in request, and his services greatly valued. At the society's exhibitions, and in particular the Primula and Auricula and Inner Temple displays, the Guildford plants were always noticeable, while the creations of alpine rockwork in miniature at the latter place revealed a true knowledge of such things."

SOCIETIES.

MIDLAND CARNATION AND PICOTEE SOCIETY. REPORT FOR 1901.

THE eleventh annual exhibition was held at the Edgbaston Botanical Gardens, on Wednesday and Thursday, July 31 and August 1, and was considered one of the best exhibitions yet held, although from an exhibitor's point of view, the Flakes, Bizarres, and White Ground Picotees were hardly up to the usual standard, but the Sells, Yellow Ground Picotees, and Fancies were acknowledged by all to be the best ever seen. Mr. Martin R. Smith being prevented from coming at the last moment, was well represented by his head gardener, Mr. C. Blick, and was a successful exhibitor, as will be seen by the list of awards. Mr. Douglas was present and showed a very nice collection of the newer varieties, mostly of Mr. Smith's raising. Mr. Robert Sydenham, unfortunately, from over-work in his various businesses, was too indisposed to take his usual active part as a competitive exhibitor, and many regretted he was unable to do so.

The attendance of the public and members was the largest and most satisfactory the society has yet had, and was no doubt in a measure due to the very fine weather which prevailed on both days. The entries in nearly all the classes were much more numerous than usual, particularly in the Sells, Yellow Ground Picotees, Fancies, and "undressed" classes. The rule made two years ago, requiring that all "seedlings" should be named, has proved very beneficial, showing how necessary it was that such a rule should be made.

The classification of the Yellow Ground Picotees and Fancies as arranged by the parent society is still continued with the most satisfactory results. Several flowers were staged for certificates, but only a few received awards as mentioned in the report, the committee being fully determined not to award certificates unless the flowers are of superior merit. The best thanks of the society are again given to the committee of the Birmingham Botanical and Horticultural Society for their liberal treatment in allowing us the free use of their lovely gardens and glass houses, also for their kind support in every way, in addition to giving our society several handsome medals; to Professor Hillhouse, the honorary secretary, who has done all he could to advance the interests of our society; and to Mr. W. B. Latham, the superintendent of the gardens and his staff, who again did everything they could for the convenience and comfort of the exhibitors and visitors. The best thanks of the society are also given to the judges, and to Mr. Richard Dean, who came specially to assist in the staging and arranging of the exhibits.

Unfortunately, Mr. Cartwright finds he is unable to continue the management of the society, and Mr. Sydenham has, at the special request of the committee, again kindly undertaken this task for 1902, but only upon the consideration that Mr. W. Parton, Jan., of King's Heath, has promised to take up the work in 1903.

The committee have to regret that the balance in hand with the treasurer on December 31 showed a considerable diminution from that of the previous year. This decrease was owing to: (a) A considerable number of members resigning from the society, who have given their active support to it, as personal friends of Mr. Sydenham. (b) A large number from whom no response could be obtained, and whose names it was found necessary, therefore, to strike off the list of

members. (c) To the increased list of prizes as offered at last exhibition. They therefore express the hope that each individual member will do what he can in the interest of the society, and make a point of introducing at least one new member during the year, so that the society will soon recover its normal position.

The committee have thought it desirable to withdraw the three classes introduced last year for six blooms of a variety on stands, and in their place have introduced six classes, Nos. 20 to 25, which they consider will be a very interesting competition, and bring a much larger number of entries.

EAST ANGLIAN HORTICULTURAL CLUB.

The membership of this progressive club is still increasing, several fresh members being proposed at the February meeting. Under the chairmanship of Mr. J. Powley, supported by Mr. T. B. Field (Ashwellthorpe), in the vice-chair, the members assembled had a very interesting evening. An essay competition, open to single-handed gardeners only, upon "The Propagation and Cultivation of Soft-wooded Plants" gave large scope for some useful debatable papers. The three prizes were awarded as follows: First, Mr. W. Rush, gardener to F. P. Hinde, Esq., Thorpe; second, Mr. C. Matthews, gardener to L. E. Willett, Esq.; third, Mr. D. Howlett, gardener to T. Chaplin, Esq., Thorpe Hamlet. The papers were composed of practical points upon the cultivation of the most useful of our greenhouse and conservatory plants coming under this head. Mr. Rush had characterised his paper by many pithy points, denoting careful observation.

A lengthy discussion followed, in which several members took part, Mr. T. B. Field giving some useful hints, and alluding to the massive show Pelargoniums grown in 8-inch pots by the old school of gardeners. Mr. E. Peake explained the term soft-wooded and what constituted a soft-wooded plant in a very lucid manner. A letter which had been received from E. P. Boardman, Esq., offering a silver flower bowl for competition for flowers and vegetables, open to single-handed and amateur gardeners only, was received with much heartiness. A capital display of flowers, fruits, and vegetables was placed upon the show boards in the monthly competition; Mr. C. Hines, gardener to Garrett Taylor, Esq., Trowse, taking the largest number of points combined.

WEYBRIDGE HORTICULTURAL SOCIETY.

ON Friday, the 14th inst., Mr. Richard Dean, V.M.H., delivered a lecture to the members of the above society in the Public Hall, Mr. James W. Bilney occupying the chair, the subject being "Floriculture and florists during the past fifty years." Commencing by stating that the subject was a very large one, and as he could only touch upon a portion of it during the time at his disposal, Mr. Dean alluded to the formation of the National Floricultural Society in 1851, and the necessity which existed for setting up an impartial and authoritative tribunal to deal with new florists' flowers on their merits. A large and representative committee of leading florists was formed, methods of procedure were drawn up, and censors appointed to make awards of certificates of merit and commendations to new varieties, and so putting an end as far as possible to the conflicting estimates of quality given by individuals. The National Floricultural Society continued in existence until 1859, when, through the creation of the floral committee of the Royal Horticultural Society, it was dissolved. Mr. Dean then passed in review the leading florists' flowers of that time, and the men who were foremost in their improvement. The Anemone and Ranunculus, Auricula, Calceolaria, Cineraria, Cyclamen, Carnation and Picotee, Fuchsia, Gloxinia, Pelargonium, Chinese Primrose, Tulip, Pansy, Verbena, &c., and interspersed his remarks with personal reminiscences of the leading men engaged in the work. He then went on to deal with what was termed "epoch-making flowers"—the fancy Pansy, Japanese Chrysanthemum, Begonia boliviensis and its allies, with references to B. socotrana and B. Gloire de Lorraine, Clematis Jackmani and its allies, Hippeastrum pardinum, Dahlia Juarezii, Gladiolus psittacinus, G. gandavensis, G. purpureo-aureus, and the improved Sweet Peas. Interesting information was given as to the origin or introduction of the foregoing, and those who were instrumental in improving the flowers stage by stage. The interest of the audience was well sustained throughout, and at the close a hearty vote of thanks was moved to the lecturer by Mr. T. Caryl, seconded by Mr. J. Lock, and carried, with the expression of a hope that the subject would be continued at some future time. Mr. Bilney was also warmly thanked for presiding.

ROYAL HORTICULTURAL SOCIETY.

FRUIT COMMITTEE.

PRESENT: Mr. A. H. Pearson (in the chair), Messrs. J. H. Veitch, W. Poupert, H. Esling, A. Dean, S. Mortimer, G. Wythes, J. Willard, J. Jaques, James Smith, C. G. Nix, E. Beckett, W. Pope, M. Gleeson, G. Kell, and H. J. Wright. There were very few exhibits before the committee. Superb bulbs of Cranston's Excelsior Onion, grown and exhibited by Mr. N. Kneller, gardener to Mr. Wyndham Portal, Malshanger Park, Basingstoke, worthily received a cultural commendation. Messrs. W. Poupert and Son, Twickenham, showed splendid Asparagus and Seakale.

The only fruit consisted of a few dishes of Apples. Apple Golden Russet came from Mr. W. Sanderson, Kirkly Leythorpe, Sleaford, Essex; the handsome Apple Long Keeper from Mr. Parker, gardener to the Duke of Richmond, Goodwood, and superb fruit of Apple Rowe's Edward VII. from Messrs. W. B. Rowe and Son, Worcester.

ORCHID COMMITTEE.

Messrs. F. Sander and Sons, St. Albans, were awarded a silver-gilt Flora medal for a group of interesting Orchids. In the centre were finely flowered Lycaste Skinneri alba. Among the Cattleyas was a fine plant of Schroderae, Lelio-Cattleya Ernestii (flava × percevaliana); it has pale yellow sepals and petals, the lip bright purple, shading to yellow in

the throat. Lælia jongheana, a fine flower with a prominent crest on the lip. Zygopetalum crinito-Gautieri, derived from the parentage indicated; the sepals and petals are deep brown, mottled with green, the lip white, shading to violet-purple. Zygocoxys wigianium superbum (C. jugosus × Z. intermedium)—the finest hybrid we have seen in this section. Cymbidium wigianium (eburneum × tracyanum). This has the intermediate characters of the parents, the sepals and petals are greenish yellow, faintly spotted and lined with brown, the lip yellow, spotted with bright brown. C. eburneum was represented by a finely flowered plant. Miltonia blueana, Masdevallia, Odontoglossums, and other interesting Orchids were included.

Mr. J. Cypher, Cheltenham, was awarded a silver Flora medal for an interesting group of beautiful Dendrobiums. Prominent among these were D. Cybele, showing the influence of the D. findleyanum, parent D. melanodiscus aurora, with the yellow area in front of the maroon purple disc in the centre of the lip. D. noble Cooksonii, D. n. ballana, D. n. nobilium, and others of this section were well represented; the remainder of the group, consisting of finely grown plants of other species and hybrids, for which this firm is noted.

Messrs. Charlesworth and Co., Heaton, Bradford, sent a delightful group, consisting of made up plants of Odontoglossum citrosomum and Lælia Coronet (cinnabarina × harpophylla), showing the influence of the two parents, L. Mrs. M. Gratrix (cinnabarina and diglyana). Lælia-Cattleya Sunray (cinnabarina and superba), one of the best of this section of hybrids. L.-C. diglyana mossiae, paler than the typical form. Vote of thanks.

Sir Trevor Lawrence, Bart., sent a good group, which was awarded a silver Banksian medal. These included Dendrobium nobile burfordense, D. xanthocentrum pallens, Cypripedium Miss L. Fowler (insigne × chamberlainianum), C. birston-Sallerii, a hybrid showing the intermediate characters of the parents, C. burfordense (bellatulum × boxallii), Dendrobium treacherianum, with a raceme of nine flowers; Masdevallia gargantina, and other plants were also included.

Captain Holford, Westonbirt (grower, Mr. H. Alexander), was also awarded a silver Banksian medal for a group consisting of good varieties of Cattleya Trianae, numerous Cypripediums, Cœlogyne cristata, and various Odontoglossums.

J. J. Colman, Esq., Gatton Park (gardener, Mr. W. P. Bound), sent a large and interesting group consisting chiefly of a general collection of Cattleya Trianae in variety, Dendrobiums, Epiphrontis Veitchi, and forms of Lælia anceps (white section). A silver Flora medal was awarded.

Messrs. Hugh Low and Co., Bush Hill, Enfield, sent Odontoglossum loochrystense, Dendrobium nobile album, D. wardianum album, and a fine flower of Cypripedium Olivia.

P. C. Walker, Esq. (gardener, Mr. G. Cragg), sent a fine variety of Odontoglossum crispum.

M. S. Cook, Esq., Kingston Hill (gardener, Mr. Buckle), sent a fine variety of Odontoglossum Rossii majus.

R. G. Thwaites, Esq., Christchurch Road, Streatham (gardener, Mr. J. Black), sent Dendrobium wigianium album.

W. M. Appleton, Esq., Weston-super-Mare (gardener, Mr. Brooks), sent Cypripedium dowlingiana (Godefroya leucociliolum and insigne Chantini), showing the influence of the parents in its intermediate character.

J. Taylor, Esq., Reigate (gardener, Mr. W. Leeman), was awarded a cultural commendation for a grand plant of Dendrobium speciosum, with ten racemes of flowers.

H. T. Pitt, Esq., Rosslyn, Stamford Hill (gardener, Mr. R. Thurgood), sent Cypripedium Felicity (tonsum × callosum), a very pale colour.

H. F. Symons, Esq., Beckenham (gardener, Mr. G. Day), sent a pale variety of Odontoglossum Adrianae named Mrs. Simonds.

D. Grimshill, Esq., Kent Lodge, Uxbridge, sent a fine variety of Cypripedium villosum.

W. Cookson, Esq., sent Phala-Calanthe Ruby; it is one of the finest-coloured of this section of hybrids.

R. I. Measures, Esq. (gardener, Mr. H. J. Chapman), sent Cypripedium Argo-arthurianum, a secondary hybrid, showing the finely-spotted characters of the Argo parent.

C. J. Lucas, Esq. (gardener, Mr. Duncan) sent a finely-flowered plant of Odontoglossum coronarium brevifolium, for which a cultural commendation was given.

FLORAL COMMITTEE.

Present: Mr. C. E. Shea, chairman, and Messrs. C. T. Drury, H. E. May, G. Nicholson, J. Walker, R. Dean, J. F. McLeod, John Jennings, J. Hudson, W. Howe, C. R. Fielder, C. Dixon, J. Fraser, C. Jefferies, J. A. Nix, George Gordon, R. W. Wallace, E. H. Jenkins, R. C. Notcutt, C. Blick, G. Paul, and E. Mawley.

DEATH OF MR. SELFE LEONARD.

Prior to the commencement of the ordinary business the chairman remarked upon the valued services to this committee of the late Mr. H. Selfe Leonard, and the loss that horticulture in general has sustained by his sudden death. Mr. G. Paul also, spoke endorsing the chairman's words, and a vote of condolence with Mrs. Leonard was unanimously passed.

THE EXHIBITS.

A striking and beautiful feature of this meeting was the array of early forced deciduous shrubs from Messrs. R. and G. Cuthbert, Southgate, Middlesex. No finer group has been seen at the Drill Hall, and considering the varied character of the plants all were well grown. The Lilacs were notably good, and a dark variety called Souv. de Louis Spach is certainly the best in this way for such early work. The Azaleas of the Mollis and allied sections were abundant and good, and full of flower withal. Prunus triloba and its varieties usual in such groups, Cydonia Maulei, C. japonica alba, Staphylea colchica, Dentzia gracilis, Magnolias, Geiostea precox, Ribes, and Wistarias were other noticeable

features of the group. There was also a mass of Cytisus purpureus incarnatus and well flowered. Though an old plant its merits for early forcing appeared but little known. Silver-gilt Flora medal.

From Messrs. James Veitch and Sons, Limited, Chelsea and Feltham, came a pretty group of forced plants of Amygdalus persica magnifica, the flowers red; Forsythia suspensa, and a few specimen plants of Cupressus lawsoniana Stewarti, a well coloured golden form of this well-known type. A batch of Cineraria Feltham Beauty with purplish flowers also came from the same firm. Silver Banksian medal.

Messrs. T. S. Ware and Co., Limited, Feltham, set up a small though interesting lot of alpine and other plants and flowers, of which Soldanella alpina, Primula floribunda and its variety grandiflora, Cyclamen Atkinsii rubra, Anemone blanda, Iris reticulata, Primula Forbesi (very pretty), and P. obconica rosea (a very fine form) were noticeable in the general arrangement. Of more than ordinary merit were Saxifraga burseriana, of which two pans gave promise of a long display of bloom, the early yellow S. apiculata and the new Primula P. megasefolia. Such Irises as I. reticulata and its var. purpurea, I. Tauri, &c., were in good bloom, as also Magnolia soulangeana. Some interesting Cacti and forced Daffodils were also shown. Silver Banksian medal.

A pretty and somewhat distinct Asparagus is A. plumosus Blampiedi, for which it is claimed that 10° less heat is necessary, and that it is more productive of sprays, that it is lighter and therefore more elegant, and that it develops its fronds at an earlier date. The plant is said to have been raised from seeds sent from South Africa. It was shown by Messrs. Blampied and Sandevin, La Posse, St. Martin, Guernsey. Asparagus plumosus sarmensis sent by Mr. A. J. Gilbert, Rohais Nursery, Guernsey, is apparently identical with the above plant, the former name having been accepted by the committee.

Messrs. Jackman and Son, Woking, sent a charming little arrangement of the choicer alpine with a few dwarf shrubs in the background, such as may well be used for rock work. Of the former the yellow Fritillarias, e.g., F. aurea and F. Moggridgei were very fine and in some quantity, many stems having two flowers, and these particularly fine. The Epigea repens with its pinky white bells is very dainty, while very brilliant is the Vernal Navelwort (Omphalodes verna). There were excellent plants of Saxifraga burseriana. Iris stylosa atropurpurea, Anemone blanda, Androsace pyrenaica, a perfect cushion of green, dotted with white flowers, Saxifraga Boydii alba, Puschkinia libanotica, and Tulipa kaufmanniana made a capital display. Of Ramondia pyrenaica there were some grand tufts. Silver Banksian medal.

Mr. G. Mount, Canterbury, has commenced the exhibition season of forced Roses rather earlier than usual. Such as La France, Mrs. J. Laing, Mrs. Sharman Crawford, Captain Hayward, and others made quite a display and attracted much attention. Silver Banksian medal.

Messrs. Cutbush and Sons, Highgate, had an arrangement of medium-sized plants of Erica melanthera, E. wilmoreana, many well-flowered Epacris in red, white, and pink shades, the ever-welcome Boronias, as B. megastigma and B. heterophylla, Palms, Ferns, and other equally serviceable plants. Silver Banksian medal.

Messrs. J. Peed and Sons made a display of Primula obconica; the flowers were large and good, and the plants well grown. Bronze Banksian medal.

Mr. A. Chandler, Haslemere, showed several pots of Lachenalia seedlings, mostly, however, of L. aurea, L. luteola, and other well-known types of this flower.

Messrs. William Paul and Son, Waltham Cross, filled the centre of the floor with specimen Camellias. There were many fine kinds, of which the following were the most conspicuous:—Exquisite, red; Mme. A. Verschaffel, pink; Fimbriata, white; Reine des Fleurs, red; Montifiori Vera, a grand double white, of exquisite purity and form; Tricolor, semi-double, pink with white margin; alba-plena, imbricated, Marchioness of Exeter, &c. Then there was a single kind named Adelia Patti, pink in colour, reticulated with a darker shade, the centre being a perfect cup of golden anthers. This variety was almost perfect. Silver-gilt Banksian medal.

Messrs. Hugh Low and Co., Enfield, had a large array of plants, in which Azaleas, Acacias, Lilacs, Epacris, and Ericas were prominent and a great variety of other useful plants. Silver Flora medal.

Messrs. Canonn and Sons, Swanley, again somewhat extensively showed their strain of Primulas, the majority of which we referred to on a former occasion. In addition we may now mention Lady Dyke as a most useful white. It is one of the plain petalled sorts and very free, as it extends whorl above whorl. Some handsome white Cyclamen were a mass of flower, perfect and well-grown examples. Silver Flora medal.

Messrs. Barr and Sons, Covent Garden, had a good display of Narcissus cyclamineus, Muscari azureus, Chionodoxa sardensis, Iris persica Hudeichi I. reticulata, Anemone blanda taurica, pink Hepaticas, together with market bunches of forced Daffodils as Horsfieldi, Golden Spur, Sir Watkin, and the ever-welcome old double yellow. Silver Banksian medal.

Mr. John May, nurseryman, Summit, New Jersey, U.S.A., sent blooms of the new American Rose, Mrs. Oliver Ames, the flowers having been cut some fourteen days; the blooms are large and full, probably too full to succeed as a winter Rose in this country, of a carmine-pink colour in the centre, the outer petals shading to white. A vote of thanks with cultural commendation was unanimously given and a desire expressed that it be seen as produced on budded plants in England to determine its merit.

Two Acacias in flower came from Mrs. Denison, Little Gaddesden, Berkhamsted, Herts (Mr. A. G. Gentle, gardener)—one called A. harpophylla, which received a first-class certificate, and to which we shall again refer; the other was A. melanoxylon, a white flowered kind. Some doubt was expressed as to the names of these plants, the former of which is more ornamental.

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GROUPING OF SHRUBS AND TREES.

IF this subject were considered with only a reasonable amount of thought, and the practice of it controlled by good taste, there is nothing that would do more for the beauty of our gardens or grounds. Nothing can so effectually destroy good effect as the usual senseless mixture of deciduous and evergreen shrubs that, alas! is so commonly seen in gardens—a mixture of one each of a quantity of, perhaps, excellent things planted about 3 feet apart. There would be nothing to be said against this if it were the deliberate intention of any individual, for, as a garden is for the owner's happiness, it is indisputably his right to take his pleasure in it as he will, and if he says, "I have only space for one hundred plants, and I wish them to be all different," that is for him to decide. But when the mixture is made from pure ignorance or helplessness, it is then that advice may be of use, and that the assurance may be given that there are better ways that are just as easy at the beginning, and that with every year will be growing on towards some definite scheme of beauty instead of merely growing up into a foolish tangle of horticultural imbecility.

If the intending planter has no knowledge, it is well worth his while to take advice at the beginning—not to plant at random, and to feel a few years later, first doubt, and then regret, and then, as knowledge grows, to have to face the fact that it is all wrong and that much precious time has been lost.

How to group is a large question, depending on all the conditions of the place under consideration. Whether a group is to be of tall or short-growing shrubs or trees, whether it is to be of three or 300, and so on, the knowledge that can answer is the knowledge of gardening of the better kind. The whole thing should be done carefully on paper beforehand, or there will again be repeated the error of the huddled single plants. The groups will have to be well shaped, well sized, and well related to each other and all that is near, or they may be merely a series of senseless blocks, not intelligently formed groups at all. Then in proper relation to the groups, single plants can be used with the best possible effect, as, for instance, a Snowy Mespilus or a Cherry, or a *Pyrus Malus floribunda* against a dark mass of Yew or Ilex, or a *Forsythia suspensa* casting out its long-flowering branches from among

bushes of *Berberis*. Then the fewer individuals will have their full value, while the larger masses will have dignity even when in leaf only, and their own species beauty at the times when they are in flower or fruit, for some flowering and fruiting bushes are best grouped, while a few are best seen standing alone, and it is only knowledge of good gardening that can guide the designer in his decisions on these points. Still, it does not follow that a shrub or flowering tree cannot be used both for groups and single use, for such an one as the *Forsythia* just mentioned is also of charming effect in its own groups with the red-tinted *Berberis* or the quiet-coloured *Savins* or whatever be the lower growing bushy mass that is chosen to accompany it. Everyone can see the great gain of such arrangements when they are made, but to learn to make them and even to perceive what are the plants to group together, and why, that is the outcome of the education of the garden artist.

Much has been done at Kew in the judicious grouping of plants, and here is a living place of instruction open to all where the best of plants may be seen, and to a considerable degree the best ways of using them in gardens.

THE BEAUTY OF NATIVE EVERGREENS.

RAMBLING about the country in winter one becomes more and more impressed with the beauty of our native evergreen trees and shrubs. Seven names comprise them all—Yew, Holly, Scotch Fir, Spruce, Juniper, Box, and Ivy. Even of these the Scotch and Spruce Firs (commonly so-called, though the Scotch is a Pine) are doubtful natives, though so long acclimatised that they may be classed with our own. Those who are laying out new grounds on a large scale would do well to plant these grand things in plenty; indeed, in the case of any new planting that is taken in hand, unless the owner has a good knowledge of shrubs and some taste in their choice and disposition, a planting of these alone would save him from many a regrettable mistake and from the prospect of the usual senseless jumble of mixed shrubbery that has hopelessly spoilt such thousands of gardens.

No foreign shrubs can compare with or take the place of our Yews and Hollies. However large a collection of exotics may be in a well-stocked arboretum, a winter walk among them

only shows that there is nothing more cheerfully handsome than our Hollies or more solemnly dignified than our Yews. On dry, sandy soils no conifer is better for England than the Scotch Fir, or for moist, loamy regions and valley bottoms none is better than the Spruce. Then for dry uplands in light soils there is the lovely Juniper, the best of all its kind (though often in nurseries foreign ones only are offered to its exclusion), and for chalky soils and loams the Box luxuriates and can be used as a small tree as well as in its usual bush form. The use of common Ivy should not be forgotten. How important it is in winter may be perceived by anyone during a country drive, when it will be seen to be the one most conspicuous living thing, adapting itself to a diversity of use that is quite extraordinary.

It may safely be said that there is no garden or pleasure ground that would not be the better for the rather largely proportioned use of our native evergreens. For every place one or more will be found to be adapted.

NOTES OF THE WEEK.

Forthcoming Events.—March 10, annual general meeting of the United Horticultural Benefit and Provident Society, Caledonian Hotel, Adelphi Terrace, Strand, at 8 p.m., Mr. Herbert J. Cutbush in the chair. March 11, meeting of the Royal Horticultural Society's committees, Drill Hall, Westminster; Horticultural Club, 6 p.m.

Notes from Wrexham.—What pleasure there often is in a walk round the garden in early spring after a long frost. One meets something to gladden the eye at almost every step. Under the house wall is a large mass of *Iris stylosa*, and the promise of more buds. Next we come to *Rhododendron præcox* studded with dark pink buds and growing in a large bed carpeted with Winter Aconite, which has been in full bloom throughout the frost. Near by are many plants of the rare *Galanthus cilicicus* in fresh bloom. The lovely *Crocus tommasinianus* is flowering in abundance amidst *Erica carnea* now in bud. Beyond *Hepaticas* give bright spots—blue, pink, and white—under the Holly hedge. Under the Apple tree the Christmas Rose is still in full beauty. On the rockery *Narcissus minimus* attracts the eye, but the species of *Crocus* are the chief adornment, the delicate beauty of *C. Imperati* and the rich purple blooms of *C. Sieberi* deserving particular mention. Miss Jekyll warns us wisely against steep grass banks in laying out gardens, but even a steep grass bank can be made to add to the beauty of a garden; one here, planted rather thickly with Snowdrops (*Galanthus Elwesii*), Crocuses, Dog's-tooth Violets, and Tulips, is a delight month after month. I should much like to know whether *Galanthus Elwesii* grows and increases in your correspondents' gardens. Here I

have been afraid that some hundreds of bulbs planted years ago in grass became fewer in number year by year, but one patch of fifty or so planted in the grass close to a Sycamore tree is finer this year than ever.—F. A. STURGE, *Coed Efa, near Wrexham.*

Hubbard's Pearmain Apple in the North.—Referring to our illustration last week Mr. G. Wythes, of Syon House Gardens, writes: "Hubbard's Pearmain was first introduced to public notice in 1820 by Mr. Lindley, and recognised by the Horticultural Society as a very good dessert Apple, very few—with the exception of Cox's Orange Pippin, which is just ten years younger—being better. Hubbard's Pearmain is certainly one of the best dessert Apples in use from December to April. In Dr. Hogg's 'Manual' it is mentioned that it is a great favourite in the eastern counties and regarded as one of the richest flavoured dessert Apples grown. It is a worthy companion to Cox's Orange Pippin, and should be more grown in those gardens where good dessert Apples are needed from Christmas to April. The tree, like that of Cox's Orange Pippin, is especially adapted for private gardens; it is not of large growth, bearing abundantly, rarely failing to crop, as it flowers late. In the northern part of the country it is much valued for its keeping properties. To show its value in this respect, some years ago I saw beautiful fruits of it in a Scotch garden where it was grown for sale under the name of Easter Apple. Of course this was a local name, and at first I thought it was Cox's Orange Pippin. It resembles the last-named in size and colour, while the flesh is yellow and firm, but less juicy than that of Cox's Orange; the stalk is short, and in some soils the fruits have more russet on them than in others. They are of conical form, regular, and brownish red on the sunny side. The great value of these well-known old but good Apples lies in their keeping qualities and good flavour. I have heard objections made to their size. They may not be large enough for sale, but sufficiently so for dessert. I was sorry to note on two or three occasions at the great hardy fruit show of the Royal Horticultural at the Crystal Palace the judges in a few instances favoured mere size in dessert fruits. This is not necessary, and I was pleased to see a note in the schedule at the last show that those Apples grown for dessert, such as the larger Blenheim and Gascoigne's Scarlet should be selected for their high colour and not be more than 3 inches in size—this is quite large enough for all dessert purposes. Hubbard's Pearmain is one of the best dessert Apples at Alnwick Castle; indeed, in these northern gardens it is a great favourite, and as it fruits in some seasons more freely than Cox's Orange it is valuable when the latter is none too plentiful. I have noticed that Hubbard's Pearmain rarely fails to crop. Another very fine Apple I trust will be illustrated is the newer James Grieve. This may be called an early Cox's Orange, and in the northern part of the country, especially in Scotland, it grows and crops grandly. I should add, in the far north, the older favourite does not always fruit as well as in other places, and this makes such Apples as James Grieve and the one illustrated doubly valuable. THE GARDEN is doing fruit growers a good service in illustrating and describing our best standard fruits, and noting their seasons, as, though some varieties do well in certain soils and diverse localities, in others they fail more or less. Any information is of great value to intending planters who need the best kinds and for a long season." [We should much like to illustrate James Grieve Apple. Will some reader kindly send us a good fruit. We intend to continue this series of "Hardy Fruits in Season" throughout the year, illustrating the fruits as they become ready.—Eds.]

Presentation to Mr. H. G. Cox.—At a recent meeting of the Reading and District Gardeners' Association the members took occasion to show their appreciation of the secretarial services of Mr. H. G. Cox, which have now extended over some years, by presenting him with a hunter gold watch. To Mrs. Cox was given a handsome silver tea service in morocco case. These gifts were

accompanied by a framed illuminated address bearing the photographs and names of all the working members of the association. Mr. Leonard G. Sutton, the president, made the presentation on behalf of the members, expressing their indebtedness to Mr. Cox for his work as secretary and his services since he had been a member of the association.

Lawns.—Messrs. Sutton's booklet upon this subject gives valuable information, and is indispensable to all who wish to keep their lawns in the best condition. Messrs. Sutton's remarks do not extend beyond thirty-six pages, so that they are concise is obvious; it is no less true, however, that they are exhaustive. Grass slopes, so often the gardener's bane, are treated upon, as also are weeds in the soil, selection of seeds, and other important items connected with the upkeep of the lawn.

Fruit trees and green fly.—After the short but sharp spell of wintry weather in the middle of February one would imagine the green and black fly to be destroyed on fruit trees, such as the Cherry or Peach, but I regret to say, on close examination, that our wall trees are much infested, especially at the back of the shoots that are close to the wall. There must be no delay in getting rid of the pest before the trees bloom. Our trees have been detached from the walls, but the pests have found a hiding place in the crevices of the walls. I have found quassia used now one of the safest and best insecticides. Before the buds began to expand it was safe to use soluble petroleum, but now I advise quassia. This can be obtained in liquid form ready for use. Later on, when the fruits are the size of Nuts, I have used petroleum and quassia in a concentrated form, and one or two dressings have destroyed that worst of pests, the black fly.—A. C. N.

Mr. Harman Payne.—By decree dated the 22nd ult. the French Government, on the proposition of the Minister of Agriculture, has promoted Mr. Harman Payne to the rank of Officier du Mérite Agricole in recognition of his services to horticulture. It will be remembered that Mr. Payne was nominated Chevalier of the same order in 1896 on the occasion of the Jubilee of the National Chrysanthemum Society, of which he has been for many years the foreign corresponding secretary.

Mr. H. J. Chapman.—This well-known Orchid grower, who has been for many years with Mr. R. H. Measures, Cambridge Lodge, Camberwell, is leaving to take charge of the Orchids and garden generally of Mr. Norman Cookson, Wylam-on-Tyne.

The late severe weather and Spring Broccoli supply.—Fair supplies of Cornish and Continental Broccoli are coming to the market, and this is fortunate, as the recent spell of severe weather, though short, has played sad havoc with Broccoli in private gardens. The plants most affected were those just forming heads, or those, say, about the size of a large Walnut. These are ruined, and, of course, belong to the March and April supply. Those more severely cut were growing in light land and in soil often manured, as the dwarfier plants in heavier land are less injured. I find such varieties as Model and Late Queen have not suffered much, but a few plants here and there. A good portion of the leafage is injured, but the breadths are fairly good. This is fortunate, as with a short supply of green vegetables the late spring crop will be more valuable. The losses in gardens are greater than in open fields, as the plants in the former are softer and often closer together. Our best plants in the garden are those on north borders in heavy soil and in fields.—A. C. N.

How plants mimic one another.—In the current issue of *Knowledge* the Rev. Alex. S. Wilson discourses on the methods employed in the plant world for obtaining protection from enemies by mimicking or resembling other plants which are efficiently protected. Mr. Wilson writes: "Mimicry is perhaps more frequent in the seed than in any other part of the vegetable organism; it occurs, however, in other organs, and even the entire plant body may assume a deceptive appearance. A well-known example is

the white dead Nettle, which so closely resembles the Stinging Nettle in size and in the shape and arrangement of its leaves. In systematic position the two plants are widely removed from each other, but they grow in similar situations and are easily mistaken; anyone who has occasion to collect quantities of Lamium is almost sure to get his hands stung by Urtica, an experience calculated to convince one of the efficacy of protective resemblance. A somewhat analogous case is the Yellow Bugle of the Riviera, which has its leaves crowded and divided into three linear lobes, some of which are again divided. In this the plant differs very greatly from its allies; it has, however, acquired a very striking resemblance to a species of Euphorbia, abundant on the Riviera. The acrid juice of the Euphorbias secures them immunity against a host of enemies. As the two plants grow together there is little room to doubt that, like the dead Nettle, the Bugle profits by its likeness to its well-protected neighbour.

New flowering shrubs.—M. Lemoine, of Nancy, to whom we are indebted for many beautiful flowering shrubs of hybrid origin, particularly among the Lilacs, Philadelphus, and Deutzias, announces in his present catalogue some more additions. There are two Deutzias, the first, *D. discolor floribunda*, is described as bearing porcelain white flowers, which are in the bud state tinged with rose. The flowers appear so freely as to almost hide the foliage, and it is referred to as the finest that M. Lemoine has put into commerce. The second, *D. gracilis eximia*, is, when fully expanded, almost white, but tinged with pink on the reverse of the petals, while in the bud state it is of a rosy carmine hue. The Weigelas (precoces) receive two additions, *Floreale*, flowering about May 8, and bearing large clusters of blossoms, in colour soft rose with a carmine throat; and *Le Printemps*, which has flesh-coloured flowers, and commences to bloom about May 10. Beside these there are three varieties of double-flowered Lilacs, *Dr. Troyanowsky*, *Mme. de Miller*, and *President Loubet*, and two hybrid forms of Clematis, between *C. davidiana* and *C. stans*, named *Gerbe Fleurie* and *Profusion*. In addition to the above hybrids M. Lemoine also announces the rare *Spiraea Aitchisoni* from Afghanistan, which as far as I am aware is not yet to be obtained from any of our nurserymen. Its nearest relative is *Spiraea lindleyana*, but it differs from that well-known species in several well-marked features, chief among them being the reddish bark, smooth deep green leaves, and larger flowers.—T.

Butter Beans.—The Rev. Clementi-Smith is quite right about the excellence of the Canadian and other Butter Beans. They are tender and of very good flavour. They are, unfortunately, as mentioned, often objected to because of their yellowish colour—a most unreasonable prejudice. The golden colour, however, makes them all the better for their use in the salad bowl, where they are delicious.—T. B.

Rudbeckia conspicua is a valuable hardy plant to grow, especially in a dry season, as it is not affected by drought in the same way as is *R. Newmanii*. *R. conspicua* belongs to the hirsuta type, grows 18 inches high, and is exceptionally free flowering; it has long narrow petals of an intense orange-yellow colour with the usual black disc.—E. M.

Fruit to Australia.—The Orient Pacific Company has issued a circular offering to take fruit and vegetables to Australia at a rate per box. The boxes are not to be larger than 2 feet 10 inches cubic measurement, and half-boxes are to be allowed if they do not exceed 1 foot 5 inches. The freight to Fremantle is to be 5s. per box, and 2s. 9d. per half-box, and to the other ports 4s. 3d. and 2s. 3d. Arrangements will be made for the transhipment of boxes to such Australasian ports as the company does not call at. It is quite likely that this may be the beginning of an important trade with the colonies, as though Australia produces a larger amount of fruit on her own account, the seasons here and there are interchanged, and Italian fruit will come in when their trees are not in bearing.

Rose show fixtures in 1902.

June 11 (Wednesday), York†; June 24 (Tuesday), Holland Park, London, W., Rose conference (Royal Horticultural Society)*; June 28 (Saturday), Maidstone and Windsor; June 30 (Monday), Canterbury; July 2 (Wednesday), Temple Gardens, London, E.C. (National Rose Society); Croydon, Hanley*, and Richmond (Surrey); July 3 (Thursday), Colchester and Norwich; July 4 (Friday), Exeter (National Rose Society); July 5 (Saturday), Sutton (Surrey); July 8 (Tuesday), Gloucester and Harrow; July 9 (Wednesday), Ealing, Farnham, Formby, Hereford, and Stevenage; July 10 (Thursday), Bath, Eltham, and Woodbridge; July 17 (Thursday), Helensburgh and Halifax; July 19 (Saturday), Manchester (National Rose Society); July 22 (Tuesday), Tibshelf; July 23 (Wednesday), Cardiff*. †Show lasting three days. *Show lasting two days. The above are all the dates that have as yet reached me of Rose shows and other horticultural exhibitions where Roses form a leading feature.—EDWARD MAWLEY, *Rosebank, Berkhamsted, Herts.*

Malayan Rhododendrons at Kew.

—The advantages gained by the indoor planting out system of culture over pot culture is well seen in the case of Messrs. Veitch's race of warm house Rhododendrons. As a whole the group is characterised by beautiful flowers and plenty of them, but in some cases their habit is objected to. Being naturally straggling, and not caring for the pruning knife, plants are apt to become rather bare and scraggy, and when seen with their ugly pots and stages the beauty of the flowers is considerably discounted. The difficulty has been got over at Kew by planting in a specially prepared border. In this way more luxuriant growth is made, the plants are better furnished with leaves, and they flower almost perpetually. The method of culture pursued at Kew is as follows: The house is kept at an intermediate temperature, the minimum in winter being 50°. A portion of one of the borders, 60 feet by 9 feet, thoroughly drained to within 9 inches of the top with brick rubbish and gravel, was filled in with three parts good fibrous peat and one part silver sand, the compost being raised into small terraces by means of large tree roots. In some cases the soil is nearly 2 feet above the level of the paths, so ensuring thorough drainage. Each small terrace or bay between the roots is given up to a variety, some being represented by single plants, others by groups. When first planted the compost was thoroughly rammed round the balls, and care was taken that each ball was thoroughly moist before planting. Until the roots had penetrated well into the new soil a small basin was left round each plant to ensure water passing freely into the ball and not running round the sides. During spring and summer the plants are syringed several times a day, and when there is abundant drainage watering is done two or three times a week. Instead of pruning, strong branches are tied down, and by this means more and stronger shoots are made. The collection at Kew is a good representative one of the varieties in commerce, and it is rarely that no flowers are to be found, whilst in autumn, winter, and early spring a continuous display is made. With such a lovely and useful race of plants as these Malayan Rhododendrons it is worth going to a little trouble to grow them well, and anyone who can afford a small house for planting out purposes would do well to give them a trial if for no other purpose than growing for cut flowers. Coming as the flowers do at a dull time of year, their rich colours and good lasting qualities when cut make them most useful. In planting out no loam should be used, and lots of sand should be mixed with the peat. Great care must be taken that the old balls do not get dry, and plenty of rain-water must be given when the plants are growing well. Superfluous moisture must always drain quickly away.—W. DALLIMORE.

Home-made and imported jam.

In common probably with other readers of THE GARDEN I am in receipt of a circular emanating from a body called the Fruit Growers' Federation, which invites co-operation in an effort to prevent the British public from purchasing jams made of "foreign fruit" in preference to those made

from fruit grown at home and in our colonies. It is specifically stated that fruit sent here from France, Germany, Holland, and Belgium, near countries, and from which we obtain enormous quantities of dessert fruit in the best possible condition, must, of necessity, when such fruit is sent for jam making, be in bad condition when it arrives and be unfit for jam making. Why that should be so no information is given. Still further, why fruit which is in transit one night only should be bad, whilst that coming from our colonies taking weeks to reach us must, of necessity, be good, I fail to understand. A similar circular was read to the fruit committee of the Royal Horticultural Society at a recent meeting, and treated with the contempt it deserved. It was pointed out that it prevented our effort to obtain some sort of protection for British-grown fruit at the expense of foreign fruit to the manifest cost of the British consumer. A further circular from the secretary of this so-called federation asked that efforts be made to compulsorily label all jams as either of foreign or home-grown fruit. That practice was adopted in another case a few years since, manifestly to the advantage of the imported product. If British jams are better than foreign fruit jams, and are sold as cheaply, they need no labelling as to origin, as the public are sharp to favour the best. If the foreign fruit should be most preferred how would the labelling benefit the British jam? The whole thing is an insidious effort to interfere with and restrict trade, and cannot benefit British fruit culture one atom.—A. DEAN.

Prunus pseudo-Cerasus under glass.

—This Japanese Cherry is very beautiful, not only in the spring when flowering out of doors, but also at the present time in the greenhouse. To obtain flowers now gentle forcing is necessary; indeed, hard forcing is a mistake for rosaceous plants in general, as if brought on rapidly in this way the flowers soon drop. For the last two or three years these flowering Cherries have been finely shown at the early meetings of the Royal Horticultural Society and have attracted much attention. One of the finest, known as James H. Veitch, was awarded a first-class certificate three years ago. In this the semi-double blossoms are of a pleasing shade of deep pink and about a couple of inches in diameter, while the young leaves are of a pretty bronzy tint. The variety Watereri, with double blush-tinted flowers, is not new, but very beautiful. Though this Cherry attains the dimensions of a tree, it will flower freely when not more than 3 feet high, that is if the plants are grown especially for such a purpose. Where hardy shrubs for forcing are made a speciality of, this Cherry in its different forms is grown in considerable numbers.—H. P.

The Tree Tomato.—Mr. H. Dugmore asks (on page 110) for information as to the Tree Tomato. From his description I should imagine that there was little doubt but that the plant he has is *Cyphomandra betacea*. In the winter of 1893 I received three seeds which had been brought home from Ceylon (the plant is a native of Southern Brazil) and which in due time germinated. When about 2 feet in height the seedlings were planted out in a large span-roofed Tomato house, where they grew at a prodigious rate, and by the autumn had reached a height of 12 feet. In September they opened a few clusters of whitish, solanaceous flowers at the extremity of the stalk, which, up to within a foot of the top, was branchless. Some of the leaves were fully 24 inches in length by over 12 inches in breadth, and possessed a most unpleasant odour, rivalling that of the foliage of *Clerodendron fetidum*. During the winter, no heat being kept in the house, the leaves died, and the top of the stem of one plant was cut off at a height of about 6 feet, the other two plants being rooted up. In the spring the remaining plant sprouted all up the stem, and, the lower growths being rubbed off, eventually formed a large head some 6 feet in diameter and rather over 12 feet high. It flowered profusely and bore large clusters of fruit. These fruits were smooth and somewhat egg-shaped, more pointed at the apex than at the base, and

turned a dull orange-red when ripe. I have seen it stated that the fruit is palatable, but my personal opinion after eating it both cooked and raw is that it is distinctly the reverse. The Tree Tomato is a plant of noble appearance, and is especially striking when laden with its clusters of flowers or fruits, while its large leaves have a truly tropical look. Owing to the size it attains it naturally requires a large house to enable it to display its form to the best effect, but though a handsome plant its owner will study his own comfort if he refrains from touching its leaves.—S. W. FITZHERBERT, *South Devon.*

—Though the description given of the Tree Tomato at Kew in 1900 was perfectly accurate the plant will naturally grow much taller. Your correspondent (Mr. Dugmore) does not state what soil the plants are growing in or what amount of light they receive. *Cyphomandra betacea* revels in as much light as English seasons can accord and prefers a loamy soil, when growth is more compact than is the case in a lighter mixture. Mr. Dugmore should reduce the stem to 2 inches from the glass and select three or four branches to form the main head. From these others will produce fruit. Under the best conditions growth is somewhat rampant, and it was found necessary to thin the growth of the Kew plant two or three times during the season.—ALICE P. HUTCHINGS, *The College, Swanley.*

Gloriosa superba for winter flowering.

—This is also known as the Climbing Lily, and is an interesting plant for growing under glass. The petals of the flowers are gold and scarlet in colour and curiously twisted. For growing on the roof of a warm house or training over steps or on a trellis in a pot it is most useful. In many instances when grown in a pot it is not given sufficient light, and then the flowers are of poor colour and the growth weak. One is apt to think then that the variety is not the true one, although there is a marked difference in some compared to others. This I have often seen. A variety is growing here collected by a lady in its native habitat. The flower has much larger and broader petals and higher colour. Most cultivators grow this for summer blooming, for which it is well suited, but I regard most things of greater value if they can be had in bloom when the outside garden is less gay than at that season, and it is more prized for cutting in autumn and winter than in summer. Some may say we have *Chrysanthemums* in autumn, but it is not everyone who cares for these flowers, and here they always take second place. It is then the *Gloriosa* is useful to cut from. Our rule is to shake out the bulbs in April, potting them again and placing at the coldest end of the stove. In this position they do not show signs of growth until after midsummer, when they are given a light position and a stake placed to the growths. When tall enough they are trained to a trellis under the glass, and given a little stimulant frequently when the pots are full of roots. In this way they continue blooming from September until the middle of January. The soil we use is turfy loam and peat in equal parts, with charcoal and sand to keep it open.—J. CROOK, *Forde Abbey, Chard.*

Thermometers.—Your correspondent, Mr. Edward Mawley, recommends the use of a Six's thermometer. Having for the last twenty years taken meteorological records, I have had to do with these, and my experience has been that they are not only very expensive, but beyond all comparison the most untrustworthy and most likely to get out of order, and I have discontinued their use for all purposes for some time past. In our periodical testing and comparison of our thermometers with a Kew standard instrument it was a very rare thing to find any of the Six's pattern registering correctly. They were simply an expensive nuisance, and their readings were never taken as correct without verification. The ordinary horizontal pattern requires no magnet, and can be trusted with very rare exceptions for at least twelve months. Some will go for several years within a small fractional error. Another utterly untrustworthy form is the thermograph, or record-

ing thermometer, driven by clockwork. They are costly, pretty, and amusing, but they are very rarely correct in all parts of the scale, and they vary from week to week, and sometimes from day to day, to such an extent that they can only be considered as a scientific toy. On the other hand, the barograph, a recording barometer, is as steady and reliable as a first-rate aneroid, with the same fault, *i.e.*, it usually drops slowly below standard and requires a slight correction every year or so.

—THOS. FLETCHER, F.C.S., *Grappenhall, Cheshire.*
— I have read with surprise Mr. T. Fletcher's sweeping condemnation of a thermometer which has held its ground for over a century and is still very largely used. Like an aneroid barometer it is not what is termed an "instrument of precision," but, on the other hand, it is an extremely useful form of thermometer, and sufficiently accurate for all ordinary purposes. In gardens extreme accuracy is not required, because the difference of position, of exposure, and of height above ground will often make a greater difference in the readings of a thermometer than any ordinary error due to the instrument itself. Like all other self-registering thermometers, a Six's thermometer is liable to get out of order, but after carefully weighing all its advantages and disadvantages with those of the ordinary horizontal self-registering thermometers I came to the conclusion that the Six's were preferable for use in gardens if mounted, as recommended, firmly and in a shaded and vertical position. I have had three Six's thermometers in constant use for over twenty years, and have never had the least trouble with any of them. On the other hand, the ordinary Rutherford minimum thermometer used in gardens is always getting out of order; indeed, it is very seldom on visiting a garden—and I have seen a good many—that I have found this instrument without some spirit lodged in the upper end of the tube, and, consequently, to that extent reading incorrectly; it may be from 1° to as much as 6° or 8°. It is for this reason that in times of severe frost, for instance, so little reliance can be placed on the very low temperatures often registered by garden thermometers. Your correspondent appears to have been equally unfortunate with his thermograph as with his Six's thermometers, whereas I have had a Richard thermograph in use nearly as long as my Six's thermometers, and regard it as one of the most useful and interesting instruments anyone could possess, although its records may not precisely follow the indications of a verified standard thermometer. I may say that I take several times daily a good many observations with verified thermometers for meteorological purposes, but consider that a good Six's thermometer mounted on a post would practically give me equally as well all that I want to know as to the temperatures to which the plants in my garden have been subjected during the previous twenty-four hours.—EDWARD MAWLEY.

EXHIBITION VEGETABLES.

(Continued from page 143.)

BRUSSELS SPROUTS.

FOR late autumn shows a good dish of Brussels Sprouts forms a pleasing and telling feature in all collections of vegetables where eight varieties and more are required. Undoubtedly the best soil for Brussels Sprouts is a good heavy loam, but properly prepared almost any land is suitable. As a long season of growth is required the ground should be deeply trenched in winter and a heavy dressing of farmyard manure incorporated, leaving the surface rough until spring, when as open a position as possible should be chosen. Sow the seeds thinly in pans or boxes under glass at the end of February or early in March. As soon as possible prick out the seedlings in boxes 3 inches apart, and later on transfer to a border outside in a sheltered position. After the first pricking off damp over and shade for a few days, and never allow the plants to suffer

for want of water. Gradually harden off, and when they are about 6 inches high put out into their permanent quarters. Then the ground should be broken up and levelled. Lift with a good ball of soil, which should be made firm round each one when planted. Give each plant plenty of room, as nothing is gained by overcrowding; 3 feet should be allowed between the rows and 2 feet 6 inches from plant to plant, and water freely with clear water. The draw hoe must be frequently used, and copious supplies of sewage water given in hot, dry weather. For later supplies a second sowing should be made about April 10. By the end of September place a stick against the most promising plants for identification, also stake the selected ones to keep them upright. Every ten days a teaspoonful of a good artificial manure should be washed down to the roots of the selected plants. When Brussels Sprouts are exhibited on their stems three is generally the number. These should have clean, firm buttons from top to bottom. Remove the large under leaves, also any decaying ones from the buttons. Syringe the stems and roots with clear water, and fix them in small pots for staging. Where the detached Sprouts only are exhibited, fifty is generally the number. Take them off with a knife, leaving a small part of the stem to assist in handling them. Splendid exhibition varieties are Cutbush's Giant and Sutton's Exhibition. A common mistake in exhibiting these is that the buttons are generally staged much too large; they should be of medium size, quite firm, and with a perfectly smooth surface.

BETROOT.

Though not such an important vegetable as many others for exhibition, every exhibitor of vegetables should be prepared with a good dish or two. It should be included in all large collections, but not in any containing less than ten. To obtain first-class specimens a deep light loam is necessary, and the Beet should be grown on land previously occupied by Celery, and no manure used when preparing the ground for this crop. As soon as the Celery has been cleared off commence to trench, giving a dressing of old mortar rubbish, road scrapings, and wood ashes. The practice of boring holes as advised for Carrots also holds good in this case, whatever soil one may have to deal with. Bore the holes 4 feet deep, 15 inches apart, and 18 inches between the rows, filling in firmly with old potting soil, road scrapings, old hot-bed manure, well decayed leaf-soil, mortar rubbish, and wood ashes, passing the whole through a quarter inch mesh sieve. Place four or five seeds in the centre about 2 inches below the surface. In the early morning dust with soot and wood ashes occasionally, and keep the Dutch hoe busy between the plants when they appear to be making headway. Thin out as advised in other instances, and three or four times in the earlier part of the growing season a slight dressing of a good artificial manure may be given, choosing a showery day for the purpose. At the first sign of frost lift the roots, twist off a few of the outer leaves, and store the crop in a cool position, from which frost is excluded, in finely sifted road sand. For exhibition they should be of medium size, evenly tapering, regular, with a clean skin, and about 12 inches to 15 inches long. Soak for half an hour in cold water, then sponge carefully, and remove any small rootlets with a sharp knife. The young fresh leaves should be left on, and the roots syringed just before leaving them to be judged. Good long-rooted varieties are Barr's Covent Garden, Pragnell's Exhibition,

Dell's Dark Red, and Sutton's Dark Red. For early use Carter's Crimson Ball and Sutton's Globe are good. These should be sown about April 20 in rows 1 foot apart, and the plants thinned out to 10 inches between each. A good soil for this crop is that described in the first instance, and the best situation a south border.

CARROTS.

Select a deep sandy loam for this crop, although capital roots are often grown on sandy peat, but seldom indeed can exhibition specimens of the finest type be produced unless special means are taken to procure them. Few things are more attractive when at their best than Carrots at any season of the year, consequently the additional trouble incurred to secure them is time well spent. For early shows the seed must be sown under glass during January or February, or, better still, one sowing at the beginning of each month. A brick pit with sufficient hot water piping to counteract frost is a distinct advantage, and failing this substitute a hot-bed of leaves. There must be no undue hurry in placing the prepared material in the frames, for should this become overheated the chances of good clean Carrots are remote. Sufficient warmth should be maintained to create a growing temperature. Get together a compost embracing the following ingredients, or as much like them as possible: Old potting soil, road grit, old mortar rubbish, peat, well-decayed leaf-soil, and light sandy loam which has been stacked for some time. Mix in equal proportions, and to every fifteen barrowloads of the former add one of wood ashes and half a bushel of bone-meal or Clay's Fertiliser, passing the whole through a quarter inch mesh sieve, which should be prepared some days beforehand and thoroughly incorporated. In the bottom of the pit place a layer of 3 inches of old Mushroom bed material, covering this with the compost to the depth of 18 inches or 2 feet. Three good varieties for these sowings are New Scarlet Intermediate, Champion Scarlet Horn, and Veitch's Model. On fine days the sowings should be syringed, shutting up the structure early in the afternoon. Thin out as soon as the seedlings are large enough to handle, only partially at first, but later on thin out to 3 inches apart; ventilate freely as they get established, ultimately entirely removing the lights. Young Carrots may be pulled from time to time for immediate use, thus allowing those intended for exhibition space to develop properly. For autumn and winter shows the second week in April is a suitable time to make a sowing. No manure should be added to the ground, which should be thoroughly trenched during winter, and unless soil is available similar to that first named boring holes must be resorted to and filled with a mixture similar to that previously described. So certain is one in making sure of a large percentage of typical roots that I would strongly advise everyone to practice this plan if only a row or two be done. The holes should be bored with an iron bar to the depth of 3 feet 4 inches, and allow a distance of 13 inches from plant to plant. The rows should be 18 inches apart. Use the mixture in all cases moderately dry, and ram it firmly with a stick. Place about six seeds, which should be just covered, in each hole, and neatly rake over the soil. Thin out the resulting seedlings, leaving three of the most promising for a week or ten days, after which thin to one, leaving, of course, the strongest and healthiest plant as close as possible to the centre of the hole. Dust the growths in early morning with fresh soot once a week. Green-



THE RARE GALANTHUS ALLENI AT KEW.

fly is often very troublesome in the young stages of growth, but this may be easily got rid of by a timely application of strong soft soap and water, which should be distributed with a syringe. Keep the hoe constantly plied between the plants when the growth is of fair size. Mulch the whole of the ground with old Mushroom bed manure to the depth of 1 inch, and during spells of dry weather occasionally water the crop thoroughly. The whole of the crop should be carefully lifted when the growth is completed, otherwise many of the best roots will split. The best exhibition specimens are quite clean, of moderate size, symmetrical in form, and of a good dark red colour. Trim off all small rootlets with a sharp knife, partly reduce the tops, and store in a cool shed or cellar in fine sand, placing the roots in an upright position. When preparing them, the day previous to the exhibition, soak the specimens for about an hour, clean them with a soft sponge, and thoroughly rinse in clear water. Cracked specimens, those attacked by wireworm or have green tops, should be rejected. For all autumn and late shows there is no variety, in my opinion, to beat a true type of the New Red Intermediate, but, at the same time, when first-class specimens of Long Surrey can be had, it is a very close rival.

E. BECKETT.

(To be continued.)

NOTES ON HARDY PLANTS

KNIPHOFIA LEMON QUEEN.

K NIPHOFIA LEMON QUEEN, a seedling form of *K. citrina*, stands out distinctly from others of its race in the matter of stature and the soft, refined colour of its flowers. The plant is a slender grower, though it soon forms a tuft strong enough to produce several spikes of flowers. The leaves average 3 feet in length, the stems 2 feet, terminating in dense spikes of lemon-yellow tubular flowers, slightly tinted with green when they first appear, and assuming a silvery tint

as they age. No trace of orange or red is apparent in the flowers at any time, a distinction also enjoyed by the hybrids *Stella*, *Solfaterre*, and the coarse and uninteresting *Star of Baden-Baden*, a star of a buff-yellow tint, and one that shines as though through a London fog, compared with the red or golden brilliancy of its fellows. Lemon Queen suggests a different use to that made of the majority of Torch Lilies. It is not strong enough in growth to be of much use in bold displays calculated to be effective at a distance. It is better adapted to the herbaceous border—not too far from the path—where the unusual but very pleasing colour of its flowers would not be lost. It is neat in habit, never ragged looking, and in the matter of floriferousness the best Torch Lily raised in recent years.

GEO. B. MALLETT.

GALANTHUS ALLENI.

THIS handsome Snowdrop was introduced amongst a stock of the Caucasian *G. latifolius*, sent to Mr. Allen, the well-known Snowdrop specialist, from Austria in 1883 by Herr Gusmus. In 1891 it was described as a new species by Mr. Baker, who says that it is evidently midway between *G. latifolius* and *G. caucasicus*. It has the short broad leaves of the former. They are, however, not bright green but slightly glaucous, and it has the large flowers of the latter with their very convex obovate outer segments, and inner segments like those of *G. caucasicus* with a large horse-shoe shaped green blotch on the upper half. It is undoubtedly one of the most distinct and handsome Snowdrops in cultivation, possessing broad arching leaves and large flowers. The photograph represents a group growing in a warm south border at Kew where it has been undisturbed for many years. Although the plants are growing and increasing freely no mature seed has ever been gathered.

W. I.

THE IXIOLIRIONS.

I AM sorry to have to express a different opinion about the hardiness of the Ixiolirions from that held by Mr. Mallett, whose contributions to our knowledge of bulbs and their ways are always so valuable. For the first few years in which I grew them I held strongly to the opinion that I had lighted upon a pretty and distinct hardy bulbous plant. A severe winter had, however, the effect of forcing me to alter my opinion, as not only

established bulbs but seedlings a year old, raised from seed off plants which have been grown in the open, perished, thus destroying a cherished belief that the Ixiolirions were hardy. I never cut down either the foliage or flower spikes of such things until they are quite ripe, so that I cannot attribute the losses to this cause.

This one regrets, as they are all that Mr. Mallett says in their favour, and one was disappointed to find that their hardiness was not pronounced enough for all gardens in all winters. In the south they may do well enough, but even here, where it is much milder than in the Midlands of England, they are too tender for outside in all winters. This, however, need not prevent their more extended cultivation. They are ideal frame plants, and, as Mr. Mallett justly remarks, are of the greatest possible use for the cool greenhouse, where their pretty blue flowers will be admired by everyone.

S. A.

PRIMULA MEGASEÆFOLIA.

THIS pretty Primula, referred to in "Kew Notes" on page 115 of THE GARDEN of the 15th ult., and by Miss Willmott on February 22, has been attempting to flower in the open here for about three months, but it is rather painful to see how often its efforts are frustrated by the weather. A bloom or two opened at a time, merely to be spoilt by a sharp night or two of frost, until the climax came in the blizzard at the end of the first week of February. Since then it has been under snow, where I

hope it may be allowed to remain until a more seasonable time comes to us. This winter-flowering, however acceptable for plants grown in pots in the cool or cold house or the frame, is, as a rule, to be regretted except in one of the mild winters we sometimes have—winters which all who grow early hardy flowers appreciate unless followed by a biting spring. *Primula megaseæfolia* is a distinct looking plant, and is attractive when in flower or only showing its pretty foliage. It looks as if it would be hardy here in a shady position in rather moist soil.

S. ARNOTT.

Cursethorn, by Dumfries, N.B.

THE FLOWER GARDEN.

VIOLET CULTURE.

VIOLETS are without doubt the most eagerly sought after flowers during the greater part of the year. Every endeavour should therefore be made to ensure a good supply and extend the season as long as possible. They now find a place in most gardens, but in very few do they grow well and flower freely through the winter months. There is generally little difficulty in getting an abundance of flowers in the spring months, even from poorly grown plants; but unless the plants are well grown from the start and in their winter quarters by the middle of September and well set with flower buds, it is impossible to get a good supply through the winter. To ensure an early and plentiful picking propagate early. During February the plants in the frames should be mulched with a mixture of loam, leaf-soil, and cocoanut-fibre refuse. Press this firmly round the base of the plants, and in about a month the latter can be taken up, and most of the side growths will have made roots. These should be potted into 3-inch pots in the same soil as advised for the mulching. A little sand may be added, and they should then be plunged in fibre in cold frames, near the glass, and kept close until root-action has again commenced. Then admit air freely. No coddling must be allowed in their cultivation from start to finish. As soon as they have become well rooted stand them outside in a sheltered position where they can be protected at night. In the



BEEDINGWOOD: FRUIT WALL AND MIXED BORDER. (Photographed by Mr. N. Oddie.)

meantime the ground for their summer quarters should have been prepared. Choose a slightly shaded position during the hottest part of the day. Dig the ground deeply, incorporating plenty of wood ashes, leaf-soil, and spent Mushroom manure in near the surface while digging. About the middle of May is a good time to plant in rows 18 inches apart. During the summer keep the hoe and syringe constantly at work, and if the weather becomes very hot mulch with stable manure. Pick off all side shoots as soon as they show.

For early supplies the strongest plants should be planted in frames early in August, in soil as advised above, with a little Clay's Fertilizer mixed with it. Water well at time of planting, and shade for a few days. Damp them every evening with a fine rose after the sun is off and use rain water if available. The lights should not be put on until there is sign of frost or when heavy rains occur. These plants should give a supply during October and November and an abundance during the spring months. We now come to the winter supply. Plants for this should be grown in 6-inch pots, and housed in low, span-roofed pits, where a little heat can be turned on during severe weather. Pot them early in September and let them remain outside as long as possible, protect from heavy rains, and, after housing, give plenty of air day and night, and when frost comes let the heat pass up the return pipe. I have generally found this enough, even in the hardest weather; avoid draughts, but always bear in mind that Violets cannot endure a stuffy atmosphere.

M. TAYLOR.

The Gardens, Penbedw, North Wales.

NARCISSUS POETICUS (MAY FLOWERING).

THIS is one of the best of Daffodils for naturalising, for it not only adapts itself to nearly all soils (unless they are very poor) and situations, but increases in vigour with age. Some years ago, after realising the value of the Daffodil for cutting, I planted a lot down the centre of rows of Gooseberries and Currants and also under bush Apples, not in any great variety, but so that we should secure a long season from the first flowers of *N. obvallaris* until the Gardenia-flowered *Poeticus* was at an end, a period of three months, and this is possible with the help of a careful selection of the Trumpet, Star, and Pheasant's-eye sections. Of the different varieties originally planted some still give us a pleasant lot of flower, others have required renewal, none are up to the form of the late single *Poeticus*. An average of some twenty-five flowers is obtained from each clump, the result

of the bulbs planted ten years ago. We had nearly 2,000 flowers last year from a couple of rows, each about 40 feet long.

Claremont.

E. BURRELL.

BEAUTIFYING OLD TREES.

ON almost all private grounds of any extent which one may visit will be found some large shrub, or a tree entering on its decay. In such cases, a most satisfactory way is to look on the departing object as a support for vines, by which means a picturesque and beautiful transformation may be produced. I have seen so many cases of this kind that their usefulness has impressed me strongly. Some very unsightly trees, of large size, have been beautified, and many a shady bower formed by setting vines to clamber over large decaying shrubs or small trees. But two days ago, when passing a near-by residence, I saw a veteran native Chestnut tree,

which had been broken by storms and maltreated by someone who had sawed large limbs from it, until it was an unsightly looking object as it stood. As I looked at it I fancied I saw it clothed with Wistarias and Virginia Creepers, and presenting such a beautiful appearance that pleased passers-by stopped to look at it. It could easily be done. Some strong Virginia Creepers set on one side and some Wistarias on the other would accomplish this: The tree was large, and the Wistaria would not flower till it had surmounted it, which would take some years; but from the first the Virginia Creeper would give its crimson coloured foliage in the autumn from every portion it had embraced.

The nurseryman and the florist need to keep a matter like this in mind, and, where they know of the existence of a tree or shrub of this nature, explain to the owner what a desirable transformation could be brought about. Vines in pots are the best for the purpose, as there is then no check to their growth.

B.

BRITISH HOMES AND GARDENS.

BEEDINGWOOD, NEAR HORSHAM.

AMONG all the lovely districts of picturesque Sussex none are better known or admired than the ancient and beautiful woods of St. Leonards Forest, which extend for miles in the vicinity of Horsham.

Situated in the midst of these delightful woods, and surrounded with towering trees, deep pink Heather and Bracken, it would be impossible to find a more fascinating spot than Beedingwood, the residence of the Rev. E. D. L. Harvey. Approached by a lodge (covered with a wealth of purple Clematis in summer) and a fine shady avenue, this charming property combines not only beauty of position and surroundings but is quite famed for its gardens. The stately residence overlooks one of the most attractive views of the forest, and in spring the borders on the terrace, and soft velvety lawns are brilliant



BEEDINGWOOD: IN THE FLOWER GARDEN. (Photographed by Mr. N. Oddie.)

with a mass of Tulips and Hyacinths and other spring flowers of the best-known varieties. In summer every part of the grounds is of surpassing beauty and interest. In all directions there seems something to admire. The lawn and other parts are ablaze with flowers, the rosary full of choice varieties of this favourite flower, and the hot houses well stocked. Nothing can exceed the luxuriance and beauty of the long walks bordered with herbaceous plants; these form quite a feature of the place, and are represented by masses of the finest kinds for colour and growth. Everything in the kitchen garden is also admirably arranged, including the trained espalier and other fruit trees. Striking features of the grounds are the magnificent croquet lawns, over which the owner has spared neither trouble nor expense. These have been the scene of most enjoyable tournaments. The large new croquet lawn is in one of the prettiest parts of the grounds.

H. M. O.

THE SWEET PEA.

(Continued from page 151.)

THE GARDEN CULTURE OF THE SWEET PEA. In relation to the successful culture of the Sweet Pea, it is not sufficiently borne in mind that the plant branches freely, and in proportion as it can freely branch is its floriferousness. The Sweet Pea is the most free flowering of our garden flowers. To do it full justice it should have a fairly firm soil, something approaching a loam of a heavy nature. The sunniest spot in the garden should be utilised for the culture of the Sweet Pea. The spot to be planted should be treated as the Dahlia cultivator for exhibition treats his—it should be deeply dug, and in the act of digging it is well, where it can be done, to take out the surface soil a spit deep and two spits wide along the line of ground to be sown or planted, and then forking up deeply as far as it can be safely done the sub soil, working into it a good dressing of thoroughly decomposed stable manure in such a way that it can form a layer 6 inches below the surface when the trench is filled up. Rank manure should be sparingly employed; the safest dressing is what is well decomposed. The preparation of the soil should be done in autumn to lie fallow until the spring.

In his paper on "The Culture of Sweet Peas," which appears in the report of the Bicentenary celebration, Mr. H. Dunkin states: "As a rule varieties bearing flowers of a decided colour are brighter when grown in an open situation than in a partially shaded one. On the other hand, delicately tinted flowers show their true beauty when grown in a cool moist situation, where some distant object affords a slight shade. Blue and mauve varieties succeed the best under similar conditions." It may be remarked that in whatever direction the line of plants may run, one side of the row is certain to be in partial shade a portion of the day.

SOWING THE SEED.

Mr. Henry Eckford, at Wem, sows a considerable number of Sweet Peas in the open in the early autumn, and by doing so secures an early supply of bloom. A very severe winter may destroy some, but the main body survive, and as soon as the genial influence of spring abounds growth is very rapid. Others with heated houses at their command sow a few seeds in pots in January, securing germination early; the plants are gradually hardened off, and planted out in well prepared ground early

in April according to the weather. Mr. Eckford says in reference to planting out, "press the soil firmly about the roots, and do not disturb them afterwards." Some protection may be necessary against harm from spring frosts.

Sowings in the open ground can be made early according to the warmth of the position, in a favourable spot, and if the soil is fairly dry for the season of the year, a sowing can be made as early as February, with successional ones in March and April if a good supply of bloom is to be maintained. Sowing is invariably done too thickly. The sower appears to be quite oblivious of the fact that the plant branches freely. The seed can be placed in the ground to the depth of 2 inches or 3 inches according as the soil is heavy and light. If the great body of cultivators of the Sweet Pea could be induced to sow these seeds 4 inches apart, they would be taught something of the natural habit of growth of this fragrant plant. If they sow fairly thickly they should have the courage to thin out the plants as required. The first week or two after the seeds

the roots. This, however, does not prevent the plants from drawing supplies of nitrogen from solid or liquid manures placed within their reach, but so little benefit is derived from heavy manuring with nitrogenous manures that these may be wasteful, except when applied as a mulch." This is important as counteracting the indiscriminate advice sometimes given in reference to this matter. When the plants come through the soil an application of nitrate of soda at the rate of half an ounce per square yard helps to give the plants a good start till they are able to draw their own supplies from the atmosphere.

As the plants grow it is well to draw up a ridge of soil on either side; it proves a great convenience when watering has to be resorted to. Staking can then be done. The Rev. Mr. Hutchins points out that "the Sweet Pea is a slow grower. It has to be in order to go through so long a season. You will wonder all through the month of May what it is doing, it grows so slowly, and people are then apt to over feed it in trying to get it along faster.



BEEDINGWOOD, SUSSEX. (Photographed by Mr. N. Oddie.)

germinate a root is produced out of all proportion to its tiny top. By the time the plant has a top an inch high it has sent a long slender tap-root down 3 inches or 4 inches. This tap-root, which gets to be 6 inches or 7 inches long, indicates the value of deep digging, as it will go down as deep as the soil allows, a fact of importance during a time of trying drought. The Sweet Pea as a rule puts forth but few fibrous roots.

Some growers of Sweet Peas sow their seeds in small circles, eight or ten in a circle, and each circle 4 feet to 5 feet from its fellow. Very fine blooms have been produced from such circles. Where Sweet Peas are sown in rows side by side they should be 4 feet apart at least.

MULCHING AND MANURES.

Under this heading Mr. Dunkin remarks: "The Pea being a leguminous plant has the power, after reaching a certain stage of development, of collecting the necessary amount of nitrogen from the atmosphere, this important work being performed by the aid of minute organisms located in the nodules formed on

For days it seems almost at a standstill. Not until well along into June does the root appear to feed rapidly."

With the advent of a time of drought a surface mulch between the rows should be applied, half decayed stable manure is excellent for the purpose; it prevents evaporation from the soil, and preserves coolness in the ground.

WATERING.

The Sweet Pea when in full vigour draws heavily upon the moisture in the soil, and with hot drying days and a high night temperature, a thorough soaking should be given almost daily. So long as the plants make a free growth and form buds artificial manures are scarcely necessary, and the incautious use of stimulants at certain stages has operated to cause the plant to break into abnormal growth and delay the formation of bloom. Stimulants are best applied as the buds begin to colour. Mr. Dunkin recommends "drainings from stables and cow sheds, diluted with from four to six times their bulk of clean water, as a splendid fertiliser, and if occasionally there be substituted for it a liquid formed by dissolving a

pound of guano in twenty gallons of water, the plants will benefit by the change. Sulphate of potash, used at the rate of one ounce per gallon of water, is also a valuable stimulant, which may be used at all times. Soot tends to brighten the colours of the flowers." It is scarcely necessary to state that liquid manures should not be employed when the soil is dry; an application of it given alternately with ordinary water is excellent practice.

PROLONGING THE BLOOM.

This can be done by not permitting the plants to form their seed-pods. As soon as they begin to mature their seeds the bloom is reduced in quantity and size.

CULTURE IN ORCHARD HOUSES, &c.

The sowing of seeds in orchard houses and other available borders is followed by those who strive to have a supply of early bloom; it is done in some quarters on a large scale, and with excellent results. To the same end Sweet Peas are also grown in pots under glass; the seeds are sown early in October in order that the plants be sturdy to pass through the winter. As

many as six or seven Peas may be sown in a pot 4 inches in diameter, and when the plants are a few inches high and roots are abundant they can be repotted into larger pots, using a rich soil, with which should be mixed some bone-meal or other suitable fertiliser. The plants can be brought on in a temperate house, attention being given to staking and watering, and a supply of bloom may be looked forward to in April.

THE SWEET PEA IN A CUT STATE.

For house and other decorations the Sweet Pea is invaluable. Soft and attractive colours prevail among the varieties, and they are much prized by ladies for table decoration; indeed, the Sweet Pea lends itself to effective use in the whole range of floral decorations, and it should play an important part in the coming Coronation festivities, as strenuous efforts are being put forth to provide a supply of its fragrant blossoms.

SELECTIONS.

A dozen of the very best varieties will be found in Countess of Lathom, delicate pink; Gorgeous, bright salmon-orange; Lady Mary Currie, orange-pink, a lovely variety; Mrs. Dugdale, rose and primrose; Oriental, rich orange-salmon; Pink Friar, soft carmine-rose flakes on a white ground; Duke of Westminster, rosy maroon and violet-purple; Lady Grisell Hamilton, pale lavender, a charming variety; Lord Kenyon, rosy crimson; Navy Blue, rich violet-blue; and Sadie Burpee, white. To the foregoing may

be added three of Mr. Eckford's new varieties of 1901—Coccinea, bright rosy scarlet; Hon. Mrs. E. Kenyon, the finest primrose or yellow; and Miss Willmott, rich orange-pink, one of the finest varieties yet raised. Other fine varieties will be found in America, Aurora, Black Knight, Blanche Burpee, Countess of Radnor, Duchess of Sutherland, Gaiety, Lottie Hutchins, Lovely, Her Majesty, Mrs. Eckford, Princess of Wales, Prima Donna, Salopian, Stanley, and Triumph. R. DEAN, V.M.H.

SKIMMIA FOREMANI.

(SLIGHTLY REDUCED.)

(From a drawing by Miss I. M.

Charters.)

AN ARTIST'S NOTE-BOOK.

SKIMMIA FOREMANI.

SKIMMIAS, natives of the Himalaya and Japan, are among the most useful of small evergreen shrubs, looking bright and cheerful all the year with their full-green polished leathery foliage, while in early summer they bear a quantity of whitish sweet-scented, rather Privet-like bloom in



dense panicles, and in winter make a brilliant show with their closely clustered scarlet berries.

Skimmia Foremani appears to be a larger form of *S. oblata*. No shrub is better for the rock garden in cool peat or peat and loam. The berries are held the second year, and keep their colour only a little darkened, though they lose somewhat of their lustre. The two smaller clusters of berries in the illustration are the remains of last year's fruits.

PUERARIA THUNBERGIANA.

In the sunny gardens of Southern France and Italy this ornamental-leaved climber is largely used out of doors, and even in a few favoured localities in Britain it will stand through ordinary winters if planted against a warm wall. In other parts of Britain it can be grown out of doors in summer, but requires the protection of a cold greenhouse in winter. It is a very strong grower, making annual shoots upwards of 30 feet in length; the greater portion of the growth is completed between April and August. The leaves are ternate, large, and handsome, in summer green, in autumn yellow. In England flowers are rarely seen. They are in terminal racemes and blue in colour. Occasionally the stems do not die back to the ground line, short, permanent stems a few feet long being left. As it is such a quick grower it is worth treating as an annual, sowing seeds in spring and putting the plants out in May. For such purposes as clothing arbours, fences, walls, old tree stumps, or similar things it will be found an excellent subject. When planted against a wall a covering of dry leaves a few inches deep will often keep the fleshy roots from injury in frosty weather. The home of this plant is China and Japan, and a good idea of its ornamental character may be gleaned from the accompanying photograph. W. DALLIMORE.

KEW NOTES.

CACTI, HARDY AND OTHERWISE.

CACTI, taken as a whole, are regarded as singular rather than ornamental, though some remarkably decorative species are included in the Order. Nevertheless, individually, many of them possess a strong fascination, and the Cactus cult has of late years attracted a considerable following.

A method, not generally attempted, of planting out various species on a rock border has been adopted in the succulent house, as well as elsewhere at Kew, with signal success, and is of very special interest to any Cactus grower. Cacti, long-suffering as they may be, are very apt to be starved, and the exceeding beauty and vigour of some of these planted out specimens shows beyond dispute how well they respond to a more generous treatment. A noble plant of *Echinocactus Grusonii*, at the left hand corner of the border in the succulent house, would probably catch the eye of the most unlearned visitor, so conspicuous is it with its large, bright green globe, half hidden beneath the ridges, closely set with clusters of flattened transparent spikes. By a rough measurement this fine specimen is about 4½ feet in circumference. The hollow crown

at the apex being densely packed with characteristic woolly growth shows, as all experts know well, the perfect health of the plant, and is a forecast, probably, of coming flowers, which in this species are red and yellow. In some forms of this *Echinocactus* the spines are golden-yellow, in others amber, but in this case the colour is that of clear light horn.

The Fish-hook Cactus, not far off, is reckoned by some to be one of the most interesting of this section and has hard, cruel spines, the central one of each cluster being strongly recurved. It might very well be used in its native country for the purpose betokened by its popular name. Another very fine *Echinocactus* is *E. longihamatus*, whose flat rose-coloured prickles cover its entire surface,

starred *M. gracilis pulchella*. The attraction of many of the smaller Cacti, indeed, lies in the beautiful filigree work of their spines—sometimes like shining silver, sometimes rivaling burnished gold, or, again, taking the form of delicate frost-feathers. The cylinders of *Cereus dasyacanthus*, thick set with such star-like spines in reddish horizontal bands, are very distinct amongst other species. Three plump little specimens of the curious pale green spineless Dimppling Cactus (*Echinocactus Williamsii*) are very noticeable from their very different character. The border contains, besides Cacti, other succulent plants, such as Tongue Aloë (*Gasteria nigricans*), the upright-growing *Apicis*, and many more, and, though none of them are in flower at present, it is well worthy of study as a cultural lesson by connoisseurs. At one corner a very beautiful *Furcraea watsoniana*, a species from tropical America, is sure to claim attention.

Some of the more hardy Cacti, such as *Opuntia missouriensis* and other species, *Mammillarias* from high latitudes, and *Echinocacti* of the type of *E. Simpsoni*, &c., are planted outside in sheltered bays under the wall of the Palm house, where they are snugly covered in with bast mats. It will be interesting to learn, by and by, how they have fared during the severe weather, but the unusually dry winter should suit them well, as these hardier succulent plants suffer more from excess of damp than from cold, and are even capable of enduring a temperature several degrees below zero in the dry air of their native rocks and plains.

SUBURBAN GARDENING.

SPRING FLOWERS.

ONE cannot help thinking when one notices the spring aspect of the majority of suburban gardens what splendid opportunities are altogether neglected, and how different many of them might be were they but to receive a little more care and consideration. Most of the gardens in the suburbs of any town have several distinguishing features common to all, the most familiar of which perhaps are these—almost utter bareness and cheerlessness during the early months of the year, a wealth of flowers in strictly limited variety throughout summer, an uninteresting autumn, owing what bit of colour there may be to the last flickerings of the summer flowering plants rather than to a display of blossoms in season, and a remarkable monotony in plant colour and arrangement. It will be opportune at the present moment to endeavour to explain how spring may, with a minimum of labour and expense, be

made to express a great deal more to the suburban flower gardener than it now does. Surely if the gardener be worthy of the name he will not concentrate every effort upon having the borders bright at the brightest season of the year only, rather should he devote himself to encouraging the growth of those plants that bloom at a time when outdoor flowers are scarce and precious. The garden in summer is far better able to take care of itself than is the garden in spring.

Probably in the majority of suburban gardens in early spring one would see isolated patches of Snowdrops and Crocuses, but in what a large percentage of cases would these complete the list. He who would deary or wish to exclude these from a place of honour in a display of spring flowers deserves not to be listened to for one moment, but



PUERARIA THUNBERGIANA IN FRANCE. (Photographed by Miss Willmott.)

giving it, at a little distance, the appearance of some strange flower.

Tall succulent plants, evidently chosen for their representative character, a Cape Aloë (*A. superlevis*), an upstanding column of the huge Californian *Cereus giganteus*, and a handsome plant of *Euphorbia tetragona* form a fitting background. At the foot of the *Euphorbia* a species of Mistletoe Cactus (*Rhipsalis rhombica*), covered with white Myrtle-like flowers, is very pretty.

Nearer the front, and towards the verge of the border, the smaller species of *Cereus* and *Mammillaria* find a suitable position, with some of the cylindrical forms of *Opuntia*, such as *O. clavata*. Here may be seen one or two clusters of fine cushions of *M. (nogalense) recurvata*, bristly as a hedgehog, of *M. compressa*, and of the tiny white-

such is not my intention. I would rather try to point out how the best results may be secured by an even extended planting of these charming ever-welcome and earliest ornaments of the garden, and also to supplement the list that is all too short by mentioning other spring flowers equally delightful and deserving of culture, and quite as easily grown.

The Crocus should always be planted in a position where it will have a certain amount of sunshine, for the Crocus reveals its full beauty only under the influence of sunlight; in the shade it does not open satisfactorily and the colour is apparently less brilliant. In its manner of opening the Crocus is delightfully disappointing, morning after morning you may hope to see the erect blue or yellow trumpets all in vain; you come to the conclusion that you are too premature in your expectations and therefore leave them alone, only to receive the unexpected message a day or two afterwards to come and see the Crocuses in flower. Have you a bank in your garden? Then cover it with Crocuses. You will be rewarded with a feast of colour in early spring instead of a bank where grass more often than not grows but indifferently, and you will also probably at the same time be doing the best thing to preserve or improve the appearance of your grass bank. For those who would not hesitate to transform the garden bank into a well worn path rather than use the gravel road which happens to go a little farther round, would hardly summon courage to do so knowing it to be covered with charming little flowering plants. Neither does the planting of Crocuses do harm to the lawn, for by the time the latter requires serious attention so far as mowing is concerned the foliage of the Crocuses has matured.

There is hardly a less pleasing part of the suburban garden at this time of year than the lawn, and yet by the judicious planting of Crocuses, Snowdrops, Scillas, and Winter Aconites what a lovely picture may be produced. There are, perhaps, few of your readers who have had the pleasure of seeing a lawn completely covered with Crocuses, yet such an one exists in a Birmingham suburb, and forms an unique display when the flowers are at their best. Those two charming Scillas, *S. bifolia* and *S. siberica*, as well as *Chionodoxa Luciliae* form a very pretty edging; they increase and spread rapidly. Some of those charming little Irises, as early almost as any flower, everyone should find room for in a partially sheltered position. *I. reticulata*, *I. persica*, *I. Heldreichii*, and *I. kolpakowskiana* are some of them; *Brodiaea uniflora* also is seldom seen. There is no reason why many of these spring bulbs should not be planted so extensively as to provide masses of colour in every suburban garden, and to hide the bare soil and often dirty lawns. They are very cheap, and once well planted need practically no attention.

A. P. H.

THE KITCHEN GARDEN.

FORCING TURNIPS.

IN gardens Turnips are not so much forced as they should be, the labour entailed being small, while little heat is required, and the plants are among the earliest to mature. In many gardens every frame or pit is required at this season for other plants, and Turnips will find little favour, but sometimes frames may be used for Turnips that later on would grow Marrows or Cucumbers. Turnips sown in February or early in March will be ready in less than three months. In any case, there can be no question whatever that sweet young Turnips grown under glass are a welcome addition to the few good vegetables in season at the date noted. If frame culture is given—that is, frames placed on manure—avoid strong heat at the start; indeed, at no time does the plant need much warmth at the roots. Once the seedlings get weak, it is difficult to secure good bulbs. On the Continent forced Turnips are more grown than in this country, and they are profitable also to the

grower, as no vegetable deteriorates more quickly than the Turnip, so that forced roots early in the season are more useful. If frames heated with hot-water pipes are used, the forcing is simple, but always avoid high temperatures, 60° to 70° by day at the start being ample, with 10° less at night. As the plants get strong or show the third leaf, more ventilation is needed; indeed, in good weather every opportunity should be taken to ventilate freely. At all times keep the seedlings moist, and give a gentle watering overhead when the frames are closed early in the afternoon. When grown with manures, if leaves also can be mixed in, so much the better, and in all cases make a firm bed, well treading or ramming the whole, especially round the sides, to prevent shrinkage. Beds made in January may be sown for an early May supply. If manures are not used for bottom-heat, a longer time is required to bring the plants to maturity. Avoid thick sowings, which are fatal unless the seedlings are thinned very early.

Varieties are important, as some may be forced more readily than others. For years we relied upon the Early Paris Market as a white variety, but this is now superseded by Early Forcing, a remarkable quick grower, oblong in shape, and of splendid quality. Another very fine forcing variety is White Gem, a very shapely, long root, and one of the best for quality; the flesh is very white. It is one of the best sorts for sowing on a warm border I have grown, as it matures so quickly.

The Milan varieties are excellent for frame culture, but they are not equal to the oblong varieties mentioned above either for quality or for quick growth. For frame work the Extra Early Milan, a strap-leaved variety, is one of the earliest of this section. The older Jersey Navet also forces well, and is good for first supplies in the open ground. I have had the White Gem and the Early Forcing large enough for use in ten weeks from the time of sowing. The plants should have a rich soil and be grown near the glass. As they attain size they soon turn in if supplies of tepid liquid manure be given once or twice a week. Many growers sow Radishes between the Turnips, but this is not advisable, as the plants are frequently injured through getting drawn and loosened. Given too much heat the plant runs to seed badly. This should be avoided from the start.

G. WYTHES.

LETTUCE ALEXANDER (COS).

THIS is one of the best Cos Lettuces in cultivation. It resists drought well, grows to a large size, and there is little waste. The hearts are delicately white, crisp, and juicy, and unsurpassed for the salad bowl. I grew it for many years in light soil and it always gave satisfaction. It and the Cabbage variety Continuity are in my opinion the two best for small gardens.

J. CRAWFORD.

FORCING CAULIFLOWERS.

UNDER the above heading Mr. Wythes has an instructive article on page 98, and in it refers to the liability of the small early varieties of Cauliflower to button in prematurely, especially when sown in autumn. In my opinion buttoning is greatly encouraged by giving the young plants too rich and too deep a soil when they are transplanted into frames or pits in autumn. If the winter is mild they grow too large, and invariably button when planted in the open in spring. Moreover, when given much soil, very little of it adheres to the roots when the plants are lifted, consequently the plants receive a severe check and often lose their lower leaves. The frame should be placed on a hard ash or earth bottom, this being covered first with a thin layer of well rotted manure, and afterwards with 4 inches or 5 inches of loamy soil, free from manure and rather strong than otherwise. Make it very firm, and prick out the plants 6 inches apart. Keep them well watered and expose them to all the air possible in winter. Treated thus the roots will permeate the manure, and the plants may be lifted with good balls of soil in spring. If carefully planted out and screened with evergreen

branches from cold winds they will not be liable to button. Many sow early Cauliflowers too soon in autumn, and the plants grow too large for wintering in frames. By making several sowings medium-sized fibrous rooted plants are ensured. Mr. Wythes grows his earliest Cauliflowers in frames. This is a great advantage, as the plants receive no check. Mr. Wythes mentions Snowball, an excellent early variety but not always obtainable true.

J. C.

TREES AND SHRUBS.

MOVING SMALL SHRUBS.

ONLY those who have had experience in transplanting small evergreen shrubs are aware of the immense labour required to keep them in a well-rooted condition suitable for removal. Soils vary in texture in different districts, but it is safe to say that trees and shrubs which are not planted permanently require to be moved at least every second year, while some are practically ruined if not shifted every season. It is quite a mistake that a plant, which is a bad one to move, should not be disturbed very often, as these are the very ones which should be transplanted every year regularly. If this is done as soon as growth is finished in autumn there will be few losses. Even such plants as Rhododendrons, Azaleas, Kalmias, &c., which always carry a good ball of soil, are benefited by an occasional shift if not in permanent quarters, as, though a plant which has stood in one place for some years may move with plenty of roots, yet it suffers more than one which has been shifted regularly, even though the roots of both may look alike. Probably the reason of this is in the fact that a plant which has not been moved for a number of years has all its feeding roots at some distance from it, the majority of which are cut off when the plant is taken up, while those left are older and harder than those of a plant which has been moved regularly, and consequently do not start into fresh growth so quickly.

Some of the most difficult plants to move in a young state are Arbutus, Hollies, Magnolias, Cedars, Sequoia gigantea, Libocedrus decurrens, Abies grandis, Cupressus nootkatensis (Thujaopsis borealis), Thuya dolabrata, and Thuya gigantea (Lobbi). All these require to be shifted every year for the first few years of their existence, and if this is done each autumn as early as consistent with safety, they will suffer little, if at all. It may be argued that growth is checked by this constant removal, and at first sight this would seem so, but in the long run the plants are stronger and better than those left for two or three years without disturbance. With the majority of the plants named above it will be found that a large percentage die if allowed to stand more than one year without being shifted. It is during the first three or four years of their existence that most attention is required. When the shrub has attained a fair size it will be found to have a number of small fibrous roots and does not suffer so much after being moved. The worst plants of all to deal with are evergreen Oaks and Crataegus Pyracantha, and there is a good excuse for growing these in pots, as the mortality amongst them is usually very high when moved in the open ground. Those which survive are usually in a crippled state for some time afterwards. If grown outdoors they move best during showery weather in late spring, care being taken to keep them moist during the operation.

Bagshot, Surrey.

J. C.

PRUNING SHRUBS.

THERE is a wrong impression that winter and early spring are the seasons to prune all hardy trees and shrubs, but this is a great mistake. The beautiful deciduous shrubs, such as Weigelas, Deutzias, Philadelphus, and Forsythias, which flower on the preceding year's growth, are often ruthlessly hacked about in winter, and in consequence short

of much of their natural beauty. The best time to prune deciduous shrubs is after they have flowered, as then is the new wood that is to flower next year strengthened and gets thoroughly ripened, while the natural beauty of the growth is not marred when this practice is adopted. Lilacs, Spiræas, and shrubs that throw up numerous ground suckers should be looked to during the winter. Remove these suckers at once, and cut out all wood if too crowded. Lilacs, if cut hard back after flowering, and the plants encouraged with applications of liquid manure, will flower more strongly than if left unpruned, although there may be fewer clusters.

Unless very large bushes are desired, such as for large gardens or parks, the majority of deciduous shrubs would benefit by pruning now and then, and as regards those of value, chiefly for their foliage, such as the Purple Nut and Golden Elder, I would strongly advise severe pruning. This, of course, would be done before the sap rises.

Evergreens should be pruned occasionally to preserve and thicken the growth, but the best time for this is April or May. P.

ROSES OVER A HEDGE.

THE accompanying illustration shows a delightful use of the Rose. For running over hedges and the like the many beautiful rambling varieties provide an almost endless choice. Such a feature as this gives pleasure for many months when the varieties are so chosen as not to flower at one time.



ROSES OVER A HEDGE. (Photographed by Miss Willmott.)

CORRESPONDENCE.

(The Editors are not responsible for the opinions expressed by their correspondents.)

THE BOTHY.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—I am interested in your discussion on the bothy. The young gardener's complaint (page 117) is, as far as I know, a very much overdrawn statement. I think in very few bothies would things be as uncomfortable as he makes them out. I can only speak of what is done here—a very fair average sort of bothy, where I fancy the men are fairly comfortable, though probably not spoilt. We provide a woman to attend to them; she lives in the village adjacent, and comes daily to the bothy. We try always to get a widow or a person with no home ties, and we provide her with a room in the village, so her duties lead her only to attend to the men. I believe in a general way they each have their own supplies, and the woman cooks to please them all. Of one thing I am sure—if they were not comfortable we should soon hear of it, and as it is the gardener at times reports to me little repairs required or refreshments to linen or bedding. The men here have one great advantage—they are close to the village, where there is an excellent and well-appointed reading room, &c., probably a good deal better class of place than is to be found in many country villages, and here they can spend as much of their evenings as they please. Personally I always think a gardener's bothy is a very comfortable place for young men, for in most cases they have fire (*any* amount), light, attendance, and vegetables provided, and these things go a long

way to cheapen living as compared to lodgings. I do not uphold *overdoing* the care of, and providing for, the young working class. I think an overdone bothy would go far towards making the garden lads unfitted for their work, which of necessity is at times exposed and uncomfortable. Our young fellows make their own arrangements with the bothy woman as to washing and cooking and catering, and I think it is much better so, for it teaches them to think of these things and become careful and provident; moreover, I believe people as a rule dislike being "done for" in too comprehensive a way, and prefer to develop, even in a bothy question, a certain amount of identity.

These are roughly a few of my ideas on the question. Of course, if one were making new buildings one would naturally add a good many modern improvements, but I am writing of the use of existing accommodation and of making the best of it. I believe, too, that an ambitious young man will be far more particular as to what his chances are of progress and improvement in the garden he goes to, and the gardener he works under, than he will be about the minor comforts of the bothy. I think you will generally find the answer to all questions of this sort in the length of time men stay in any particular garden. I am glad to say here we are very fortunate, owing, no doubt, to an excellent head man who has the way of keeping his men, and from whom they *know* they are learning and making progress, and who, if they do well, will, when the time comes, help them to advancement. I feel sure also that he sees they are comfortable in every way he thinks necessary, and, judging by what I see of them at their work and also when off duty, I should say they were a very respectable and apparently happy set of young fellows. A. I. B.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—As one who has had experience of bothy life, may I be permitted to speak of the joys and sorrows to be found therein. There are many sides to the question, and it is to be hoped that a

thorough ventilation of the subject in the columns of THE GARDEN may lead to the redress of some of the legitimate grievances of those who live in bothies. Young gardeners in a bothy do not look for the comforts of a home, but neither do they expect to live in a cow shed. Something between the two, and inclining to the former, will usually be found to suit them well enough. A man who has a comfortable place to live and sleep in will always be more contented and work better than one who is living in a mere hovel. It has been well said that it is not merely the necessities, but the little luxuries, that make life endurable nowadays. Head gardeners should always remember—though they often forget—that their young men are exposed in their daily round to the most trying conditions of a gardener's life, and those who have worked under glass will bear me out in this. To be in a stove temperature during the winter and early spring, varied by an occasional week or so in a cold house, and looking after fires in the generally ill-fitted stokeholes, usually full of dust and sulphur fumes while the fires are being attended to, are a state of things likely to try the constitution of the hardiest. I mention head gardeners, as I believe that in most cases they are more responsible than employers for the state of things found in most bothies. To keep down the garden expenses the bothy dweller usually has to put up with conditions that are against his comfort and sometimes hurtful to his health. A great deal has been written lately about the self-improvement of young gardeners, and there is always room for improvement, but how can a man be expected to study in a bothy that is ill-ventilated, ill-lighted, ill-heated, or all three? The only time he would be likely to do any studying would be when he was detained by his turn of night stoking; at other times he would go to other attractions—the public-house if nothing better offers. There are some bothies in this country which are a credit to their owners and models of what such places should be, but while all cannot perhaps be perfect there is no reason why they should not be made at least decently comfortable. J.

FRUIT ARCHES.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—I was greatly interested in the note and illustration of a fruit arch at Milton Court,

Dorking, and I agree with "A. P. H." that arches similar to the one illustrated covered with fruit trees form a delightful feature, provided they are situated in well-chosen parts of the pleasure grounds or wild garden. The glorious autumn tints of Pear tree foliage could then be blended with the various colours that are to be seen on many of the beautiful things that find a home in the above-mentioned places. Looking at it from an ornamental point of view, it appears to me to be rather out of place in the fruit garden proper, as very little fruit can be got from trees on an arch after it has been planted a few years. At first it is a source of profit and pleasure, but eventually it develops into a shady retreat in the summer, and later on to a glorious mass of autumnal tints and colours; but for the first-class, or even second-class, fruit you look in vain. As "A. P. H." says, some of the best flavoured Pears are produced on trees whose foliage puts on the most beautiful tints; they should therefore never be planted on arches where they will have such a poor opportunity of developing their delicious fruits. The fruit arch should never be tolerated in the fruit garden or orchard, though it is a good feature in other parts of the ground planted with inferior sorts of Pears or any other kind of fruit trees which possess good leaves. To make the effect still more pleasing a few creepers, such as *Tropeolum*, may be allowed to ramble at will among them. M. T.

PEAR COMTE DE FLANDRE.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—I do not remember having seen this Pear mentioned in *THE GARDEN*, which to me is somewhat strange, as it is a grand variety. It is very hardy and a heavy and constant bearer. In shape it is long and tapering, the skin being pale yellow and the flesh buttery and delicious. It usually ripens in December. It has one fault, viz., that of casting its fruit just before it is fit for gathering. It then shrivels prematurely, and is useless. To prevent the fruit dropping the roots should be heavily mulched with well-decayed manure and several copious waterings with liquid manure given. The mulching should be arranged in dish form so as to hold the water. This is the best way of treating Knight's Monarch and others that are liable to cast their fruit. This evil is not so common in strong retentive soil as in light soils.

J. CRAWFORD.

THE MACARTNEY ROSE.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—In writing of this lovely single white Rose (*R. bracteata*), on page 89, Mr. W. J. Bean says that it has never become common in gardens. This is doubtless true of English gardens as a whole, but in South Devon and Cornwall it is frequently met with. I know at least twenty gardens where it is grown, some of which contain several specimens. It is often found on house walls, where its glossy, evergreen foliage is particularly effective even when not studded with white blossoms. In such a position it is a rapid grower, and soon reaches a height of 20 feet. It is also planted against verandah pillars and as a pergola climber. It is not an early bloomer, rarely commencing its flowering season until the very end of June, but from that time until the advent of winter it is never without blossom. In the middle of November I have seen a large plant with over forty expanded blooms upon it. The scent, though not strong, is very delicate, somewhat resembling that of a ripe Pear. Where the glorious large single white *Rosa levigata* flourishes, as it does in many localities in the south-west, it may with advantage be associated with *R. bracteata*. The first great flowers of *R. levigata*, sometimes as much as $5\frac{1}{2}$ inches in diameter, are often produced as early as April on a warm southern wall, increasing in number as the days lengthen, and reaching the zenith of their display towards the end of May or beginning of June. When the last of their petals has fallen, *Rosa bracteata* commences its flowering, which, as

I have noted, it continues through many months. An excellent drawing of *R. levigata*, by Mr. Moon, appeared in the Rose number of *THE GARDEN* last summer. S. W. FITZHERBERT.

BOOKS.

British Vegetable Galls: An Introduction to their Study.*—

The strange growths which may often be found on plants, generally known as galls, are formed by various agencies, insects, mites, eelworms, or fungi. They have attracted the attention of naturalists for very many years, and much has been written about them from time to time, but, curiously enough, no one has ever written a book exclusively on them, except on those which are formed by certain small four-winged insects belonging to the family known to entomologists as Cynipidæ; this is classed in the same family (Hymenoptera) as the saw-flies and bees. These as a rule form galls on the Oak, some on the roots, stems, leaves, or flowers, according to the species, some kinds, however, form their galls on briars or other plants. These gall-flies form the subject of a most interesting work by Dr. Adler of Schleswig-Holstein, a well-known entomologist, and the work has been translated into English by Mr. C. R. Stratton. In this book the life history, &c., of these most interesting insects has been most fully gone into, but until the quite recent publication of "British Vegetable Galls," by Mr. E. T. Connold, there was no work in the English language from which one could name the galls formed by other kinds of insects one might meet with. It is therefore with great pleasure that we welcome this handsome volume, in which are described and figured some hundred different kinds of galls. Those formed on the Oak, however, are not included in this volume. Speaking of these, the author says: "They will probably appear in a volume devoted exclusively to Oak galls," and, in alluding to the scope of this book, "this volume is not to deal exhaustively with the subject, but rather to afford the collector and student a medium of reference, whereby about two-thirds of the number of vegetable galls at present discovered may be determined. Complete lists of all known galls are also given with a brief description of each." This last sentence is misleading, as there are many galls produced by fungi which are not noticed in this work at all.

It may be questioned whether the abnormal growths on plants caused by parasitic fungi should be considered as galls in the true sense of the word, but the author evidently considers that they should be, for he asks the question, "What is a vegetable gall?" and the answer given is, "It is a morbid enlargement of the affected part of the plant due to parasitic agency." If this be so all the galls caused by fungi should be included. Some of the abnormal growths caused by the punctures of aphides cannot be considered as galls. For instance, the leaves of *Ulmus montana*, which are curled by one of the aphides, *Schizoneura ulmi*, are no more galls than the leaves of various other plants which are deformed much in the same way by other aphides, but which are not alluded to. Again, the Pears which are attacked when quite young by the grubs of a small fly (*Diplosis pryorvora*), who devour the inside of the fruit, causing them soon to fall (somewhat misshapen it must be admitted), are in no sense galls.

The book is very well printed in large clear type, and is illustrated with 130 full-page plates (half-tone photographs taken by the author), most of which are excellent and as good as could be wished, showing the nature of the galls to perfection, but several are far from what they should be, and the uncut edges of the paper render it the most difficult book to consult we have ever met with; no one could use it to work by, if their time was of any object, without having the edges

cut. The plates that are failures are mostly those of small galls which do not show out distinctly enough from the leaves. One of the leaves should have been considerably enlarged, and the galls shown in profile as well as full face. Three plates are devoted to figures of the implements, apparatus, &c., used by the author in collecting, photographing, and breeding from the gall. To persons who have no imagination these may be useful, but to others a short description or list would suffice. The plates and descriptions of the different galls are arranged according to the part of the plant on which they are situated, in the following order, on the roots, stems, leaves, and flowers. This is not a scientific arrangement, though perhaps the most useful to those who know nothing about the subject, but it is by no means an ideal one for those who do. The descriptions of the galls, their colour, size, form, when and where found, &c., are given in a particularly clear manner, but no description of the grubs or parent insect is vouchsafed, only its scientific name and synonymy, so that anyone who has not some knowledge of the scientific names of insects cannot tell what kind of insect has formed the gall. Though there are several very useful tables at the end of the book, there is not one which gives a classified list of the insects to which a student can turn to find out to what natural order an insect mentioned belongs; for instance, a gall is found which agrees with the figure of those formed by *Diplosis tremulæ*, how are the uninitiated to know what kind of insect, whether beetle, fly, or sawfly, &c., it may be? Curiously enough, a classified list of the "Names of makers of galls not illustrated in this volume" is provided. One may hope that in a future edition a table will be added giving the names of all the makers of galls, with some mark to show which are, or are not, illustrated and described. In spite of the shortcomings which have been pointed out, this work is a most welcome and valuable addition to any naturalist's library, and we can only hope that the volume on Oak galls already alluded to may soon make its appearance; until it does the student can make out the galls on the Oak very well from the book already alluded to.

Thompson's Gardeners' Assistant.—This important horticultural work proceeds slowly towards completion, the fifth volume, the last but one of the series, having recently appeared. This deals exclusively with fruit, and opens with a charming coloured plate of Peaches Royal George and Barrington, while other subjects represented by coloured illustrations comprise Cherries Early Rivers, Emperor Francis, and White Bigarreau, Melons Royal Jubilee and Middlesex Hero, and Tomatoes Chiswick Peach and Frogmore Selected. Many of the more important of garden fruits are described and illustrated, and such subjects as fruit preserving, packing for road or rail, and storing are fully dealt with. We shall review the book more fully when completed, but must again congratulate the editor, Mr. W. Watson, and also the publishers for volumes not only well printed but produced with much taste.

Greenhouse Orchids.—This book should be welcome to those who have a love for Orchids restricted to the growth of those requiring only a greenhouse, and the fact that the text has been supervised by Mr. Godseff, manager to Messrs. Sander and Co., of St. Albans, and one of the best-informed men about Orchids of the present day, should be sufficient evidence of the trustworthiness of the information. Three coloured plates are given, and there are fifty illustrations from photographs by Colonel F. C. Taylor. The character of the book may be judged from the following remarks in the preface: "The literature of orchidology is voluminous in these days. But the book written 'by an amateur for amateurs' is still needed. I have at least the advantage of

* "Thompson's Gardeners' Assistant" (Vol. V.). Edited by W. Watson. London: Gresham Publishing Company, 34, Southampton Street, Strand.

† "Greenhouse Orchids." By Frederick Loyle. Published by Messrs. Chapman and Hall, 11, Henrietta Street, Covent Garden, W.C. Price 8s.

* "British Vegetable Galls: An Introduction to their Study." By E. T. Connold, hon. general secretary to the St. Leonards and Hastings Natural History Society, with 130 full-page plates and 27 smaller drawings. London: Hutchinson and Co., Paternoster Row.

knowing what manner of work it should be, for I have suffered from the want of it." The headings to the various subjects comprise: "The Nature of Orchids," "The Orchid House," "Orchid Names," "Potting Orchids," "Orchid Prices," and "Species, Varieties, and Culture." The author makes much of the Belgian way of growing Orchids, a new system, the chief point about which is the soil. To quote the author: "This variety of *terre de bruyère* is leaf-mould, but with a difference, or, indeed, several. It is found only near the coast, in a district comparatively limited, swept by the lively breezes of the North Sea. It is loaded with salt and fine sand, much finer than that on our shores. The leaves are of Oak alone. It is alleged that growers who could not easily obtain the proper sort have tried Beech leaf-mould—with disastrous results. It persistently bred fungus," but we refer our readers to the book to know more about the method. No book is without blemishes. The author has kept well to the text, but an occasional slipshod sentence annoys the reader, evidently the result of careless proof reading.

WINTER PEARS.

PEAR BEURRE DIEL.

AN illustration of the above well-known winter Pear is herewith given, with the object more particularly of drawing the attention of the amateur and professional grower to its merits. Taking it from all points of view, it is a variety that will bring the grower as ample and profitable a return as any Pear we have. The tree is one of the strongest growers, and its foliage is particularly handsome. It must be planted on warm land, and, where this condition is secured, it succeeds equally well, whether planted as a standard in the orchard, in the garden as a bush or espalier, or against a wall, but it does not seem so happy as a pyramid. Grown on a wall, especially as a cordon, the fruit attains a great size, and, grown in this way, it is one of the best of exhibition Pears. Of course, grown as a bush or standard the fruit is much smaller. When grown as an espalier it also attains to a good size, and I think the best result as regards flavour is obtained from espalier-grown fruits. The great merit of this variety lies in its heavy and consistent cropping property—equal in this respect to that popular market Pear Fertility, and much excelling it in quality and appearance. Care must be taken not to gather the fruit too soon, as, if this mistake is made, the quality will deteriorate and its appearance be marred by more or less shrivelling. Pear Beurre Diel is in season from early in November to Christmas, and should be grown on the Quince stock. OWEN THOMAS.

GARDENING OF THE WEEK.

FRUIT GARDEN.

PLANTING VINES.

BRIEF instructions were recently given for the formation of Vine borders, and those inside should now be ready to receive the Vines. Young canes raised last season for the purpose will be in a favourable condition for planting in inside borders as soon as the buds are bursting, which should be allowed to take place under cool treatment. In planting, holes of ample dimensions to allow of spreading out the roots in layers should be made. After turning the plants out of their pots the soil should be carefully removed—if necessary by the aid of the syringe—the roots disentangled, and spread as above indicated, making the soil firm about them. The operation should be completed by lightly mulching with short litter

and by watering with tepid water. It is now too late to shorten canes that are undesirably long, as it would cause bleeding and thus weaken the Vines, but such may be presently disbudded to the desired length, and cut back when growing freely. Delay planting in outside borders by keeping the plants quite cool, that the soil may become warmed by the sun and the roots be benefited thereby. Vines raised from eyes in spring are usually fit for planting early in the following June, but they should not be planted in outside borders. The Vines in

SECOND EARLY HOUSES

are now making appreciable progress, and require painstaking management. Disbudding and stopping of shoots must have timely attention, and be carried out on the lines previously advised for early houses, while the laterals should be gradually brought down and secured to the trellises as they become sufficiently firm to allow of this. Root action will now be active, and the demand for supplies of tepid water and nourishing food will be increased in comparison, but this, it will be understood, must be regulated according to the condition of both the borders and Vines. As the sun

and others that are uncertain, should be left until it can be seen which have been perfectly fertilised. Late houses should be now closed, so that their occupants may start into growth without being hastened, and have time to finish their crops and mature their wood in early autumn.

T. COOMBER.

The Hendre Gardens, Monmouth.

ORCHIDS.

REPOTTING ODONTOGLOSSUMS.

THIS is now a good time to look through the Odontoglossum houses and repot any plants that may need it, providing these are in the right stage, *i.e.*, when the young growths are 2 inches or 3 inches long, and bearing no flower spikes. Plants repotted at this season quickly recover from the operation and grow away freely. Place the plants in the pots so that their base is level with the rim, and use equal proportions of peat and sphagnum moss as compost and Fern roots as substitute for crocks. The same compost may be used with an addition of leaf-soil, in part about one-fifth, mixing the whole well together.



PEAR BEURRE DIEL. *The fruit photographed was one-third larger than the illustration.*

increases in power, so will it necessitate increased watchfulness with respect to ventilation, in order to avoid harmful extremes of temperature. Really healthy Vines usually set their fruit well, but Muscats require a minimum night temperature of 70°, which is at least 5° more than is desirable for Black Hamburgh and other free setting kinds, and it is advisable to be on the safe side by applying artificial means for distributing the pollen of this variety, as well as that of others of doubtful character. We find it necessary in the case of Alnwick Seedling to remove a glutinous matter that exudes from the stigma to ensure perfect fertilisation, and this is done by the aid of a syringe, the flowers being fertilised on the following day. Most Vines show a great

SURPLUS OF BUNCHES,

many of which may advantageously be removed before they blossom, and the remainder as soon as the way in which the crop has set can be discerned, sufficient only of the best bunches being selected to furnish an adequate crop for the Vines to mature without being distressed. The berries of Black Hamburghs are usually fit for thinning about twelve days after the flowers are set, and should be attended to without delay, but Muscats,

Regarding Odontoglossums being potted entirely in leaf-mould, I have not so far attained such success as will warrant its recommendation generally. I therefore only recommend a few plants being placed in this material for experiment.

PROPAGATION OF ODONTOGLOSSUMS.

Odontoglossums, like many other Orchids, grow on year after year and rarely produce more than one flowering pseudo-bulb annually, but these and many other Orchids will, by severing the rhizome, produce back shoots, thus increasing the number of flowering growths and making larger specimens more quickly, or by separating these increase the number of plants. It is generally desired by those who possess Odontoglossums, especially the more valuable kinds, to increase the stock of these as quickly as possible, and there is no better or safer way to accomplish this than by severing the rhizome at the proper time and place. It must, however, be remembered that no Orchid should be treated in this way if not in excellent health.

Plants to be treated thus should possess, say, five pseudo-bulbs, and those that need not be disturbed the coming season. Sever the rhizome between the second and third bulbs just before the plant commences to grow. The third bulb

will generally produce a young growth a few weeks after the leading bulb has commenced growing, and both should remain and grow on together for at least one season. The bulb developed from the growth produced from the third bulb is always weaker than the one developed from the lead. If the former therefore shows a flower spike it should be pinched out, as this gives the weaker bulb a better chance of developing, and again, when a flower spike is taken from a bulb in the early stage the same commences to grow again sooner than if the spike remains and produces flowers. This will thereby be the means of inducing both leading bulbs to commence growing at or near the same time the following season, which is then the time to separate them and pot them in the usual way, thus making two good plants. Plants may also be severed between first and second bulb with perfect safety, and beginners need not fear the result. Select plants having four or five bulbs and those that have somewhat overgrown their receptacle. After the plant has commenced to grow, and the young growth is about 3 inches long, sever the rhizome between first and second bulbs. Owing to the plant having overgrown the pot, the majority of roots belonging to the first bulb will be outside. It may therefore be easily removed without disturbing the back bulbs, and be transferred to another pot of convenient size and potted in the usual way. Water somewhat sparingly until the new roots have taken to the fresh material. The back bulbs may remain in the pot undisturbed for another season, and until these have produced a young growth and the same is well advanced very little water is needed. It is better that the bulbs should shrivel slightly than be given too much water. In the latter mode of treatment some might hesitate in cutting between the first and second bulb in case the rhizome might decay towards the first bulb, and so lose the leading bulb and growth. This I have never experienced. Both modes of treatment are by no means new, the same having been practised for many years by the majority of successful growers of *Odontoglossums*. I have followed these modes of treatment with some of the choicest *Odontoglossums* in cultivation without failure, and they may be safely practised with the entire genus.

F. W. THURGOOD.

Rosslyn Gardens, Stamford Hill, N.

KITCHEN GARDEN.

In the middle of February the weather was unusually severe, and at the time of writing there is every appearance of a continuation of it. Fortunately, there is much work that can be accomplished, and, indeed, is better for being done at such times. All kinds of wheeling operations can be carried out without any damage to the walks or land. Trenching and digging should be pushed forward with all possible speed. Some hesitate to

BURY FROZEN GROUND

deeply, but I distinctly favour doing so. We have several breadths now being so treated, the top crust having to be broken with a pick, and I find the frost has penetrated to the depth of fully 9 inches. This is buried nearly 3 feet deep, and the bottom layer brought to the surface; consequently, practically the whole of the depth becomes purified. I fear most vegetables, particularly those which have not been well protected, will be severely damaged, so that strenuous efforts should be put forward to keep up the supply by bringing on as speedily as possible everything which will lend itself to forcing under glass; many of such plants can, after we get a favourable change in the weather, be planted out in warm, sheltered positions.

HOT-BEDS

made up some time ago and planted with the earliest crops will now need much attention, such as covering, airing, thinning, earthing up, and surface dressing, and in some cases the frames will require to be relined. Every available chance should be made the most of to uncover the lights as much as possible during daylight, admit

whenever the weather permits, and give every inducement to the young plants to make a sturdy short-jointed growth. For some three or four weeks yet successional beds should be made up; choose material that will create a gentle heat, using good tree leaves as much as possible. These can be filled with Asparagus, Potatoes, Carrots, Spinach, forcing Turnips, Globe Beet, and Vegetable Marrows: they are valuable also for pricking out Celery, Lettuce, Cauliflowers, and such like.

VEGETABLE MARROWS IN POTS.

Where these are prized early, as they are in most places, in addition to growing them in frames, splendid results by growing them in large pots may be obtained, providing, of course, room can be found for them. It is surprising what a large number of fruits can be cut from three or four plants if the roots are liberally supplied with manure water. Moore's Cream is the best variety for this purpose. Make further sowings under glass of Lettuce, Cauliflowers, Celery, Peas, Broad Beans, Capsicums, Leeks, and Cucumbers, and in the open, immediately the weather is favourable, Spinach, Sorrel, and early Turnips.

PARSNIPS.

The whole of these should now be lifted and stored under a north wall in ashes or sand, when they will remain in good condition till April. Treat Salsify and Scorzonera in the same way.

E. BECKETT.

Aldenham House Gardens, Elstree, Herts.

INDOOR GARDEN.

MANY greenhouse plants too numerous to mention will now require repotting. Do not give large shifts, as most plants flourish better if manures are given them instead, but all pots should be thoroughly clean and dry, as plants never turn out properly from those that are wet and dirty, as the roots get broken and injured, because they cling to the sides. Good drainage is always of great importance, and all potting soils should be in suitable condition. In potting hard-wooded plants never place the ball lower in the soil than it has been before, and take care that the roots are thoroughly moist before potting. The stems of most soft-wooded plants may be buried in the soil without any fear of injury. Ram the soil for hard-wooded plants with a hand rammer at the time of potting. Soft-wooded plants as a rule do not require too firm potting, but such things as *Correas*, *Darwinas*, *Eriostemons*, *Diosmas*, *Myrtles*, and *Polygalas* that have done flowering and are starting into fresh growth should be potted into a compost of good fibry peat and silver sand; the last two named should have a little loam added. *Boronias*, *Pimelias*, *Chorozemas*, *Leschenaultias*, and *Azaleas* that are coming into flower should be carefully watered. Climbing plants, such as *Cobæas*, *Cianthus*, *Tacsionias*, *Passifloras*, &c., should be well thinned out, and the leading shoots neatly trained where there is space to cover.

Daturas, *Plumbagos*, *Bougainvilleas*, and *Heliotropes* used for covering walls should be pruned, and *Camellia* plants that have done flowering may be cut hard back into shape where they have outgrown their quarters. If these can be placed in a warm temperature and syringed daily they will flower early next season. Should any require potting shift them when young growth appears, using a compost of equal parts of fibry peat and loam, with sufficient sand to keep the whole porous.

Gardenias that are coming into flower should have manure water given to them, and any growth produced at the base of the flower-bud removed, as this will increase the size of the flowers. Take cuttings of the strong half-ripened shoots that have been cut back and insert them singly in small pots filled with peat, loam, and sand. Plunge them in a propagating frame with a bottom heat of about 80°, syringing daily. I never keep the old plants a second year, as finer flowers in greater quantity are got from young ones grown on rapidly. Very large plants can be grown in one season if liberal and proper treatment be given. By inserting several batches of cuttings it will prolong the supply of flowers. Should mealy

bug make its appearance a wineglassful of petroleum to three gallons of soft water thoroughly mixed should be applied. Lay the plants on their sides, and keep stirring the mixture while applying it. If not kept properly mixed whilst using much injury may be done to the plants. Choose a dull day or keep the plants well shaded until the foliage dries. Give the plants a good syringing in about an hour afterwards.

Blinds should be got ready for use as the sun is now gaining power, and many plants if neglected will soon get spoiled.

JOHN FLEMING.

Wexham Park Gardens, Slough.

THE FLOWER GARDEN.

PLANTS FOR BEDDING.

THE present is a busy time in the flower garden, and especially so in the propagating department. The quantities of plants required for bedding out will have been noted, and every effort should be now made to secure the desired number. Those that are rooted should be potted off and replaced in a moderate temperature until growing freely; they must be hardened off gradually. This applies to *Heliotrope*, *Tropæolum*, *Iresine*, *Ageratum*, and *Verbena*. *Calceolarias* may be lifted from their winter quarters and planted into frames or pits to make good plants by the month of May. Carnations from layers last summer, *Violas*, *Sedums*, *Aubrietias*, *Arabis*, &c., can be planted out now in prepared ground.

TUBEROSES

should now be potted and placed in brisk heat to start them into growth when they can be removed to cool frames ready for planting out at the end of June. They prove very useful during the autumn for filling gaps in mixed borders, and are much appreciated by reason of their delightful fragrance. *Salpiglossis* seed sown now in boxes is a better method of culture for this beautiful plant than if sown later out of doors as advocated by many growers. If sown now the seedlings flower in the warm dry weather of summer and early autumn and are then seen to the best advantage. If sown later the bloom is destroyed by the rain and bad weather, and the plant also under these conditions gives off a most objectionable odour. The best plan is to sow very thinly in boxes in light sandy soil, and allow them to germinate in fairly brisk heat, but when the seedlings are up plenty of air must be given, as they are very liable to damp off. When strong enough prick off into boxes, placing them in gentle warmth to induce them to root readily, and when established harden off preparatory to planting out at the end of April. If massed in their different shades the display is gorgeous, so rich are the lovely colours and markings of this beautiful flower.

MARGUERITE CARNATIONS

and the new quick flowering varieties of this plant, such as the *Vanguard*, should, if not already done, be sown at once for flowering in the autumn. For vases I find nothing better than the *Marguerite* *Carnation*; the growth is much more flexible than the ordinary border *Carnation*, and the plants adapt themselves to the drooping position necessary for the furnishing of a vase. Last year I treated them in, I think, quite a novel fashion by using them in barrels, placing several on the top of each other. The *Carnations* were grown as *Strawberries* are, except that the holes were smaller and closer. The barrels were then placed on end one upon the other making a column fully 12 feet high. In the autumn these barrels, which were previously painted green, were almost completely hidden with the foliage and flowers. The effect was not only novel, but exceedingly attractive, and was greatly admired. Ivy-leaved *Pelargoniums* and the spreading *Lobelia* are also excellent subjects for this work. If the *Marguerite* *Carnations* are sown now in pots, as previously stated, and placed in heat the seedlings will be soon ready for potting singly into 2½-inch pots. When rooted sufficiently they should be again moved into a slightly larger pot, using a prepared compost of good rich gritty soil. They will then make sturdy and strong plants, fit for planting in the barrels or vases

about the end of May. The barrels for the columns should be made up, planted, and remain in the position in which they are first placed. The lowest barrel is filled completely with soil, always using a compost of rich friable loam, leaf-soil, grit, and cow manure. The barrel above has a narrow drain pipe running through to the top of the lowest barrel, while the third and top one has two pipes, one connecting with the pipe in the second barrel, while the other simply leads to the surface of the second barrel. By means of these various drain pipes water can be freely conducted to each, an item most essential to the success of this method of culture.

H. A. PETTIGREW.

Castle Gardens, St. Fagans.

ADIANTUM PEDATUM.

A CAPITAL idea of this beautiful and perfectly hardy Maidenhair Fern is given by the accompanying illustration, it is at once a bold grower and yet of delicate form. It is a native



ADIANTUM PEDATUM OUT OF DOORS IN SURREY.

of North America, even of Canada, so that we have no frosts here capable of hurting it. Although it is rarely seen in open air rockeries probably because of its brittleness, which precludes its standing with impunity much rough weather, we may yet see a strong specimen in the rock walk at Kew. The fronds grow 2 feet high, having long perpendicular shining black stalks, characteristic of the genus generally; the fronds proper are borne at the tops in the shape of a bird's foot, whence the name of pedatum. It has a blackish travelling rhizome or rootstock which keeps very near the surface, and throws up the fronds singly at short intervals. It is admirably adapted for pot culture indoors in well lighted windows not too much exposed to the sunshine, or in conservatories facing north. An ordinary Fern compost of leaf-mould or peat and loam in equal parts, with a little coarse silver or road sand, suits it admirably. Drain well and keep moist, but not sodden. If grown in the

open it must be in a very sheltered position, as it is essentially a woodland Fern. When the fronds die down in the autumn bury the pot in the soil for the winter and dig it out again the following March, this saves risk of drought.

CHAS. T. DRURY, F.L.S., V.M.H.

A BIRD AND TREE DAY.

At the annual general meeting of the Society for the Protection of Birds, held on the 26th ult. at the Westminster Palace Hotel, and presided over by Sir George Kekewich, K.C.B., the most important point for discussion was the "Consideration of the proposal to establish a Bird and Arbor Day in the British Isles." Sir George Kekewich remarked upon the indiscriminate slaughter of birds and the practice that still went on of birds' nesting, pointing out that there were very few birds destructive to crops that were not destructive to insects also. With reference to fruit and the birds, it was far better to protect the fruit by netting than to destroy the birds, which were so material a factor in producing the crop. Mr. Montagu Sharpe spoke at length upon the proposal to establish a Bird and Arbor Day, saying that Nature study should be largely introduced into schools. At the present time country children live in a fairyland but do not know it. Sir John Cockburn made some interesting remarks upon the observance of this custom in Australia. Archdeacon Sinclair and Mr. Cuninghame Graham also spoke. It was suggested that instead of Bird and Arbor Day, Bird and Tree Day should be the designation adopted, and this seemed to meet with general approval.

The Society for the Protection of Birds is doing a good work in its effort to establish a Bird and Tree Day in Britain, for the objects of such a custom would be to instil in the minds of school children a love for both plants and birds. Last year the society offered prizes for an essay upon this subject, and that written by Mr. E. D. Till was awarded the first prize. From this interesting essay we make the following extracts:—

"The waste of bird life is as constant as that of tree life, and unless natural or artificial means of protection be adopted, birds, like trees, are liable to extermination. Early settlers in America destroyed the forests and rapidly spent their substantial heritage, but many awoke to the danger and devised measures of protection which ultimately led to an Arbor or Tree-planting Day. Nebraska was the first State in which the day was observed in 1872, leading to the popular name of the 'Tree-planters' State.' On April 5, 1895, the Senate declared that the Golden Rod (*Solidago serotina*) should henceforth be their floral emblem. Other States have adopted floral or arboreal emblems. Nearly a thousand million of trees have been planted in Nebraska alone, and the arbour plantings throughout the States are beyond computation. Canada, Australia, New Zealand, and the Cape have all imitated more or less the example, but next to nothing has been done in England. The observance of Arbor Day at Eynsford, in Kent, seems to be the only instance—first in commemoration of our late beloved Queen's Diamond Jubilee, when Sir George Birdwood, K.C.I.E., M.D., LL.D., and the M.P. for Hereford, Mr. C. W. Radcliffe Cooke, assisted.

"On an Arbor Day in 1900, Eynsford planted in the village street a Weeping Lime, a Plane, and a Sycamore to commemorate the relief of Mafeking, Ladysmith, and Kimberley respectively.

"It is of vital importance in establishing a Bird and Arbor Day in this country to secure the interest of the public and the support of societies

and public bodies. To effectually awaken public interest, the prize essays should be widely distributed to the Press, followed up by a well-illustrated and thoroughly descriptive publication giving the whole history of the Arbor Day movement and its advantages to the country. Nurserymen throughout the kingdom ought, of course, to support the movement, as its adoption would create an enormous demand for trees. The funds granted for technical education are applicable for the objects comprised in the idea of Bird and Arbor Day, while Urban and Rural District Councils can also expend funds for planting trees in public thoroughfares. Lectures of a practical character on fruit-growing, tree-planting and pruning, the establishment of gardens in connection with day and evening continuation schools, and the enlistment of the sympathy and active support of teachers throughout the country, are amongst the methods of promoting the adoption of a Bird and Arbor Day. Correct information on the subject of bird life should be placed before the public in order to dispel prevailing ignorance and prejudice, and facts such as the following should be made known through the Press: First, the multiplying of trees improves the landscape, and gives a sylvan character even in cities; it also affords food, protection, and increased nesting facilities for our song-birds of the country and town.

"Trees not only encourage the breeding of birds, but assist to shelter them from the attacks of their natural enemies. The reason why certain birds, such as the sparrow, increase abnormally is that game protection promotes the wholesale destruction of their natural enemies, hawks, jays, owls, magpies, and the like. This wholesale destruction disturbs the balance of nature. Were owls, hawks, and other common birds of prey allowed to exist, undue increase of certain birds would be prevented, and a corresponding increase of migratory birds would follow. Where sparrows increase the swallows decline. A sparrowhawk eats, on an average, three sparrows per day, and a sparrow will eat an average of one hundred grains of wheat daily. An easy calculation will show the service rendered by the hawk in this respect alone during a year.

"Post-mortem examinations of the crops of birds, extending over several years, prove that they confer more benefit than harm. A farmer, near Witham, on examining the contents of the crop of a rook, found, to his surprise, the bulk consisted of wireworms! He never shot a rook again! Birds, of necessity, take toll of our crops, but it is in the shape of wages for service rendered. Think how they work for us in diminishing our weeds by eating up the weed seeds in winter!

"Museums, strictly for objects of local interest, should be established in every town and village, where the fauna and the flora of the neighbourhood should be represented for general instruction. Lectures on Gilbert White's 'Natural History of Selborne' should be encouraged, and his classic book awarded as a prize to further the observance of Arbor Day and Bird Protection. Arbor Day should be a movable holiday, not one fixed date for the whole Kingdom. In the United States each State has its own day, and dates in the several States differ. Local convenience should determine this. The importance of inducing children to take an active part in the observance of Bird and Arbor Day can hardly be over-estimated. To accomplish anything of real value the collaboration of teachers is absolutely necessary. Unfortunately there are many teachers anxious to take up the study of Natural History, but without opportunities of having the subject placed before them in an attractive form. Their knowledge of Natural History is chiefly derived from text books and object-lesson books, instead of from Nature, and enthusiasm is lacking. Several county councils, of which that of Essex affords an excellent example, have instituted normal classes for teachers desirous of studying Nature knowledge and kindred subjects.

"The Board of Education have latterly issued circulars to schools urging the adoption of Nature study as part of the curriculum. Object-lessons on Natural History, more particularly dealing with

the life histories of birds and trees, afford valuable opportunities for bringing before children the advantages of establishing a Bird and Arbor Day.

"Nurserymen now keep specimens of forest and other trees in pots for memorial planting, so that they can be safely transplanted in the height of summer if necessary. For the inauguration of an Arbor Day a committee is necessary, in which should be included influential parishioners and the school teachers. Endeavour to get contributions of pence from children towards cost of the trees, to give them a personal interest in the work. Explain to them the object. Tell off certain children to assist in the planting of particular trees. The holes should be prepared beforehand. Printed programmes should be issued. The village band should play, and children sing in procession. A public meeting should follow, and addresses on Bird Protection and Arbor Day.

"*Festina lente* is a good motto to bear in mind in the endeavour to advance Bird and Arbor Day. Attempt it first in one or two counties. I suggest Surrey and Essex, where the county councils are not lacking in 'initiative,' a quality so lacking generally. The forces which operated to bring about Arbor Days in America may perhaps be present in England, but in nothing like the same degree. The 'idea' of Arbor Day should grow gradually, not be forced. A natural growth will result if the idea be properly cultivated.

"As no greater example exists of the principle of commemorative tree-planting than that which Her late Gracious Majesty affords, I respectfully urge that the close of her long and eventful reign be, for all time, commemorated in our land by the observance of an Arbor Day, which will, in effect, celebrate what was, after all, the day of her accession!"

National Rose Society.—A meeting of the committee will be held at the rooms of the Horticultural Club, Hotel Windsor, Victoria Street, Westminster, on Tuesday, the 11th inst., at 3 p.m. The agenda is: Report of General Purposes Committee; Temple schedule; Manchester schedule; refreshments at Temple show; to decide on the number of blooms to be staged in the Jubilee classes at Manchester; local secretaries, and other business.—EDWARD MAWLEY, *Hon. Secretary*.

United Horticultural Benefit and Provident Society.—The annual meeting of the above society will be held at the Caledonian Hotel, Adelphi Terrace, Strand, on Monday next, the 10th inst., at 8 p.m. Mr. Herbert J. Cutbush has kindly consented to preside.

Gardeners' Royal Benevolent Institution.—A great gathering of horticulturists will be held on Wednesday next at the City Hall, Eberle Street, Dale Street, Liverpool, when R. J. Harvey Gibson, Esq., M.A., F.L.S., has kindly consented to preside. Harry J. Veitch, Esq., treasurer, and George J. Ingram, Esq., secretary of the institution, have promised to be present to give some account of the objects and advantages of this beneficent society. At the conclusion of the meeting a smoking concert will be held. The united support of gardeners (private and market), seedsmen, nurserymen, and others interested in horticulture, is relied upon, so that the result may prove beneficial to the institution and creditable to the city of Liverpool and district. The officers and committee will gladly receive the names of intended life members, subscribers, and donors; and will supply admission tickets (1s. each), and any information required. Mr. Charles Young, West Derby, is chairman; Mr. A. J. Crippin, Egremont, treasurer; and Mr. R. G. Waterman, Woolton, secretary. The committee consists of E. Bache, West Derby; J. Finnigan, Liscard; T. Foster, Wavertree; W. Gibbons, Croxteth; B. Ker, Cressington; W. Mercer; Cloughton; R. Pimington, Roby; C. Sherry, Botanic Gardens; J. Stewart, Liverpool; R. Todd, Woolton; T. Twist, West Derby; and W. Webster, Wavertree.

Royal Horticultural Society.—The next fruit and flower show of the Royal Horticultural Society will be held on Tuesday next, in the London Scottish Drill Hall, Buckingham

Gate, Westminster, 1-4 p.m. The committees will meet at noon as usual. A lecture on "The New Soil Science" will be given at three o'clock by Mr. R. Hedger Wallace. At a general meeting of the above society held on Tuesday, the 25th ult., seventy-two new Fellows were elected, amongst them being the Marchioness of Bath, Lady Ebury, Lady Lewis, Lady Peel, Lady Ridley, Hon. Mrs. Parker, Hon. John Wallop, Lieut.-Colonel J. Campbell, Major W. D. Garnett-Botfield, Surgeon-General A. Eteson, Captain B. J. St. George, and A. H. Lyell, M.A., F.S.A., making a total of 255 elected since the beginning of the present year. The prize schedule for the Crystal Palace fruit show will be issued on the 31st inst., post free one penny. Donations towards the prize fund will be gratefully received by the Secretary, Royal Horticultural Society, 117, Victoria Street, London, S.W.

Horticultural Club.—The usual monthly dinner and conversation will take place at the Hotel Windsor, Victoria Street, on Tuesday next, at 6 p.m. The subject for discussion will be "Birds in their relation to Horticulture," to be opened by Mr. Charles E. Pearson, postponed from December 17. Dr. Henry will be the guest of the Club at an early date.

Cassell's Dictionary of Gardening.—The tenth part of this publication has appeared and well maintains the interest of the previous numbers. A coloured plate of Michaelmas Daisies forms the frontispiece, and illustrates four varieties. Part X commences with *Hydrocharis* and continues to Law. The article upon *Irises* is well illustrated from photographs of various types.

Familiar Wild Flowers.—All interested in the British Flora will welcome the republication, by Messrs. Cassell and Co., in sixpenny parts, of this well-known work. A detailed description is superfluous. We have received Part I., which is well printed upon good paper, and the coloured representations of the wild flowers are also excellent.

SOCIETIES.

ROYAL HORTICULTURAL SOCIETY. ORCHID COMMITTEE AWARDS.

Zygocallis virginianus superbus, a beautiful hybrid having the intermediate characteristics of the parents (*Z. intermedium* × *C. jugosus*); the flowers are altogether larger than those of any of the hybrids of this class we have previously seen, the sepals and petals are green, spotted with dark chocolate-purple, forming bar-like markings across the segments; the lip is broad, flat, white, heavily marked with violet-blue. The plant carrying a two-flowered raceme was exhibited at the Drill Hall on the 25th ult., from the nurseries of Messrs. F. Sander and Sons, the Orchid committee awarding a first-class certificate.

Cypripedium J. Dinmorei (*godseffianum* × *Druryi*), a most distinct and beautiful secondary hybrid, with a robust constitution and bold flower, in the way of, but altogether superior to *C. winniamum*; the dorsal sepal is white, with purple markings in front of the green basal area, while there is the prominent characteristic of all *C. Druryi* hybrids in the broad, deep purple band running through the centre; the petals are green-yellow, suffused with purple and spotted with brown through the centre, the lip yellow, spotted with brown. This desirable addition was exhibited by Messrs. F. Sander and Sons at the Drill Hall on the 25th ult. Award of merit.

Cypripedium Felicity (*callosum* × *tonsum*), a distinct tinted variety, showing much of the influence of *C. callosum*; the dorsal sepal is white at the top, suffused with rose through the centre, pale green at the base, veined prominently with green, the petals green, suffused with purple, spotted with brown on the lower halves, lip green, veined with a darker shade. The plant was exhibited at the Drill Hall on the 25th ult. from the collection of Mr. H. S. Pitt, Rosslyn, Stamford Hill (gardener, Mr. Thurgood). Award of merit.

Odontoglossum crispum, *Mabel Whateley*, a small plant which, as it gets stronger, should develop into a first-rate variety, was exhibited at the Drill Hall on the 25th ult. The flower is beautifully round, the sepal white, suffused with rose purple at the back, spotted with brown in the centre, the petals white, with large brown spotting in the centre; the lip is white, with the usual yellow disc spotted in the centre with bright brown. From the collection of H. Whateley, Esq., Kenilworth. Award of merit.

Odontoglossum boechristianae enfieldiense.—A very beautiful form of this lovely natural hybrid, between *O. crispum* and *O. triumphans*. The sepals are bright yellow, with reddish brown spotting; the petals yellow on the margins and white through the centre; the lip white, spotted with brown. The plant, carrying a nine-flowered raceme, was exhibited at the Drill Hall on the 25th ult., from the nurseries of Messrs. Hugh Low and Co., Enfield. Award of merit.

Phaio-Calanthe Ruby (*P. sanderiana* × *Calanthe* Oakwood Ruby).—This is no doubt the finest *Phaio-Calanthe* we have

seen. Its cluster of highly coloured flowers is very beautiful. The sepals and petals are yellow on the exterior, flesh-coloured inside, broad and spreading; the lip is large and very broad in front, deep purple, with darker lines in front. The plant carried a seven-flowered raceme, and was exhibited by N. Cookson, Esq., Oakwood, Wyham-on-Tyne (gardener, Mr. W. Murray), at the Drill Hall on the 25th ult. Award of merit.

Cypripedium roborianum (*insigne punctatum violaceum* × *Godfreyae leucochilum*).—This resembles to a great extent the last-mentioned parent. The flowers are white, with a thick suffusion of spots over all the segments, and a faint trace of green at the base of the dorsal sepal. The plant was exhibited at the Drill Hall on the 25th ult. from the collection of Mr. W. M. Appleton, of Weston-super-Mare. Award of merit.

FLORAL COMMITTEE AWARDS.

Acacia harpaphylla.—When recently exhibited before the floral committee some doubt was expressed as to the correctness of the name under which it was shown, viz., *A. harpaphylla*. This in some quarters was taken as a corruption of *A. harpophylla*, while another opinion was expressed that the plant was *A. cultiformis*. Whether this is true we are unable yet to determine in a genus of several hundred species. We find, however, *A. cultiformis* figured in the plate in the French edition of "The Dictionary of Gardening" (Nicholson) to be a totally distinct plant, both in the way it produces the flowers more decidedly distinct in the phyllodes, and particularly in the compact attenuated points of all the growths, which in the plant shown appear so characteristic a feature. The blue-green colouring of the phyllodes generally is also a striking feature, and the plant altogether one of the most elegant of this fine class. Under the circumstances we incline therefore to the above name for the present and until means of verification are at our disposal. The examples were shown by Mrs. Denison, Litt. C. Gadlesden, Eekhamsted (gardener, Mr. A. G. Gentle), the sprays being densely and elegantly clothed with globular yellow heads of strongly Hawthorn-scented flowers. First-class certificate.

GARDENERS' FRIENDLY BENEFIT SOCIETY.

We have received the following letter from the secretary of this society: "I beg to forward you copy of annual report and balance-sheet, also a copy of rules of the above society, and should esteem it as a favour if you can find space to give a notice of the same in your paper, and to do what you can to draw the attention of gardeners to the advantages of joining such a society. The more friendly relations existing between gardeners and their employers, as well as the other things mentioned in the report, tend to reduce our liabilities considerably. The benefits during sickness are 10s. per week for twenty-six weeks, then 5s. per week so long as a member is certified by a doctor as unable to work through sickness or old age. Burial allowance £10 upon the death of a member and £7 for a member's wife. Few societies can offer these benefits for the small contribution of 4d. per week, and I feel sure if it were better known many would be glad to join. I may add that the funds of the society have been saved with a contribution of 3d. per week, as it is only quite recently that they have been raised to 4d. The present balance-sheet may not appear to be a very favourable one for circulation for this purpose, but it is quite exceptional, only four times in the history of the society has the expenditure exceeded the income. Started in Leeds and having its registered office there it is by no means a local society, as its members reside all over the United Kingdom.—GEORGE CARVER."

READING AND DISTRICT GARDENERS ASSOCIATION.

The fortnightly meeting of the above association, held in the Abbey Hall on the 10th ult., was presided over by Mr. Leonard Sutton, the president, and was attended by nearly 130 members, one of the largest attendances yet recorded. The subject for the evening was "Salient Points of Fruit Culture," and was introduced in an exceedingly practical manner by Mr. E. Molyneux of Swanmore Park Bishops Waltham, his demonstrations in the art of root and branch pruning, staking, &c., making his lecture easy to follow even by the youngest member present. He treated his subject under the following headings: "The Planting of Fruit Trees," "Root Pruning," "Summer Pruning," "Stimulating the Trees," "Staking," "Peaches out of doors and indoors," "Vines and Melons." At the close many questions were asked and an interesting discussion took place. The exhibits were of exceptional quality for the season of the year, consisting of some splendid samples of Apples, Mr. J. Hissey, The Gardens, Beenharn Grange, staging six dishes of Small's Admirable; and Mr. E. Fry, The Gardens, Greenlands, Reading, a dish of Annie Elizabeth Apples, whilst Mr. J. Wicks, of The Gardens, Broad Oak, staged several pots of well grown *Lachenalia luteola*. Mr. Hissey had entered his Apples for the association's certificate of cultural merit, and the judges had no difficulty in awarding the same. A hearty vote of thanks was accorded the lecturer and exhibitors.

WORKING HORTICULTURAL ASSOCIATION.

The hon. secretary of this society, Mr. Montague Rose, sends the annual report for 1901, and syllabus and list of special prizes for 1902. Monthly meetings are held, at which lectures are given, and special prizes offered for exhibits of flowers, fruits, and vegetables. The following is a list of lectures announced. March 13, "Japanese Chrysanthemums," by Mr. G. Carpenter; April 10, "Pitcher Plants," by Mr. W. Baxter; May 8, "The use of Chemical and other Manures," by Mr. F. W. E. Shrivell, F.L.S., F.R.H.S.; June 12, "Ornamental Forestry," by Mr. A. G. Jackson, F.R.H.S.; September 11, "Practical Plant Breeding," by Mr. E. Kemp Togood, Southampton; October 9, "Border Chrysanthemums," by Mr. D. B. Crane; November 13, "Natural History of some Familiar Flowers," by Mrs. Orlando Law; December 11, Bohemian concert.

THE GARDEN

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[MARCH 15, 1902.]

A BIRD AND TREE DAY.

THE late discussion, at an influential meeting, of a proposal to establish, tentatively, a Bird and Tree Day in one or more of our English counties is a significant symptom. It is one amongst several, showing that the mind of the nation is awakening to the importance of leading back the instincts of the rising generation to the old love of country life, inborn formerly in every true Briton, but which is fast wearing out. Nature study is being urged in the schools, gardens in many cases are attached to the playgrounds, and encouragements are not wanting to induce girls and boys to become in future life citizens of the soil rather than citizens of the towns, if not at home, in the larger sphere of Greater Britain. This is one aspect of the movement, and, in so far as it can be carried out with judgment, we cordially welcome it and wish it well.

Sooner or later, after a period of reckless waste, whether of tree or bird life, the people of all nations are suddenly roused to a sense of loss and prospective danger, and with much ado set to work to remedy, too late, the mischief which should never have been permitted to occur. This has happened in our colonies; it has also happened in America and in Europe. In Italy and Sardinia, where summer droughts, attributable in great degree to the wholesale destruction of timber, have prevailed in some districts to a disastrous extent, the Government is giving most strenuous attention to the rewooding of the denuded lands. In Rome a Planting Day has also been instituted, following the lead of Switzerland in this particular, if we are not mistaken. On this annual occasion the children of the municipal schools, numbering many hundreds, set out in procession for the chosen spot on the Campagna, with bands playing and flags flying, and all the joyous accessories of a public *fête*, to plant the trees grown for the purpose in the Government nurseries. The late King Humbert and Queen Margharita used to testify their interest in this national undertaking by their personal attendance—an interest which is, doubtless, still kept up by the present King. Unhappily, Italy is not so conservative in the matter of bird life. It is a pitiful sight to see strings of robins and tits offered for food, but it will be long before Italians are induced to give up the dainty morsels—mere mouthfuls of bones—which take the place with them of

larger game birds. Nevertheless, even now they begin to discover that their crops are suffering to so great an extent from the ravages of insects that a close time will shortly, if it has not already, become a necessity. We may, perhaps, think that in our own more enlightened land we have no parallel to such facts as these, but let an example be given. The wholesale clearance of timber in a district well known to us during the last twenty-five years, while no steps have been taken to restore the balance by replanting, has resulted in an entire change of climatic conditions. The rainfall has been seriously diminished, and summer drought is not unfrequent. Moreover, this diminution, in its turn, has so affected the rising of the springs in that locality that scarcity of water, in what was formerly a land of brooks and rivers, is becoming a threatening evil, and tends gravely to diminish the fertility of the soil. This is in all probability no isolated case.

With regard to the waste of bird life, a paragraph which has appeared lately in the daily papers that during the present season thousands of seagulls' wings have been in demand as an article of ladies' dress is a sufficient comment. In country districts the gamekeeper's pole with the cruel hawk trap, often with a maimed and fluttering victim, is no uncommon sight, and even the harmless, vermin-killing owl is still nailed against the barn door. We may well blush as we set our own delinquencies in this respect beside those of our Continental neighbours.

The apathy of our Government in contrast to those of other countries in regard to re-afforestation is often made a subject of comment. This blot may now be wiped off the British slate. We rejoice to see that the President of the Board of Agriculture has appointed an influential committee to report upon the position and prospects of forestry in this country. So far the renewal of plantations has been very much a matter of individual concern, to be done or left undone as inclination or circumstance may dictate. We trust that there is now good reason for believing that measures will in future be taken under Government auspices for the better management and control of our home forests and woodlands.

We hope those interested in the protection of birds and in tree planting will refer to the report of the recent annual meeting of the Society for the Protection of Birds in *THE GARDEN* last week (page 167).

THE ROYAL HORTICULTURAL SOCIETY AND ITS CEN- TENARY.

THE following is the report presented by the Royal Horticultural Society's new hall committee to the council, February 25, 1902:—

"GENTLEMEN,—Your committee was appointed on June 4, 1901. It consisted of Baron Sir Henry Schröder, Bart., chairman; Sir Trevor Lawrence; Bart., V.M.H.; Harry J. Veitch, Esq., F.L.S.; Dr. Masters, F.R.S.; N. N. Sherwood, Esq., V.M.H.; Rev. W. Wilks, M.A., secretary. It has since been enlarged by the addition of the Right Hon. the Earl of Ilchester, and Henry B. May, Esq. The committee was appointed 'to consider the question of a horticultural hall, and to report thereupon to the council. Your committee has held fourteen formal meetings, besides several informal, for the inspection of sites by various members of the committee.

"At the first meeting Baron Schröder made a statement in regard to finance, concluding with the words, 'the financial part of the question need not cause any insuperable difficulty.' It was therefore decided that the first matter for the committee to engage upon should be the finding of a suitable site. Five different sites have been very carefully inspected and enquired into, with the result that four have been dismissed as unsuitable for one reason or another. Your committee strongly advise the adoption of the fifth site, which they regard as suitable for the society's purposes, all circumstances considered. They do not believe that any better site can be obtained which would not prove to be altogether beyond the financial resources likely to be available.

"The first site investigated was that known as Niagara, covering nearly an acre of land (about 40,000 square feet) and with a large circular building. The price of the freehold was fixed at a little over £100,000. Probably at least £5,000 would have been required for adapting the building for the society's purposes, and another £5,000 or more for building suitable offices. The rates and taxes would also have been exceedingly heavy. Long and careful consideration was given to this site, but after the fullest enquiry with regard to borrowing upon the freehold and the rate of interest required, Baron Schröder announced at the fourth formal meeting of the committee that the rate of interest required for borrowing on Niagara is so high that, considering the large initial outlay required, he had reluctantly, but decidedly, come to the conclusion that the property was too large and too costly to be further entertained.

"The second site was one in the Buckingham Palace Road containing 15,190 square feet. This site also received careful consideration, but was eventually dismissed on the ground that a rent of £700 a year, coupled with an obligation to expend at least £20,000 on buildings, was too high a price for the society to pay for a lease of eighty years only.

"The third site was bounded by Vauxhall Bridge Road, Francis Street, and Carlisle Place, and included the fine building, suitable for offices, &c., known as the Old Cardinal's House. The whole site proposed contained 22,500 square feet. This property commended itself strongly to the com-

mittee, but it had the disadvantage of belonging to three different owners and also of involving the necessity of obtaining certain permissions from the London County Council. As soon as definite negotiations were entered into with the various owners it was apparent that an agreement at the price could not be arrived at and this site was most regretfully dismissed.

"The fourth site was in Francis Street, consisting of 15,000 square feet, but the rent asked—viz., £1,400 a-year for a long lease—was considered to be beyond the society's means.

"The fifth site is in Vincent Square at the corner of Bell Street. It has an area of 17,565 square feet and the rent asked is £690 a-year for a lease of 999 years. (The present Drill Hall contains 7,200 square feet). Your committee recommend the adoption of this site.

"The Ecclesiastical Commissioners, the owners of the land, stipulate that a sum of not less than £15,000 should be spent on a building and offices, and your committee are advised that the rates would not exceed £400 a-year which, with the rent, would make an annual expenditure of £1,100, or, after deducting the present cost of hall and offices, £320 a-year, it would involve an increase of expenditure of £780 a-year.

"The approaches to Vincent Square are not at present all that could be desired, but two new roads are already decided upon, one direct from Francis Street, starting from exactly opposite the New Cardinal's House and the other from Horseferry Road to the corner of the site in question in Bell Street.

"In considering the extra annual cost your committee have not made any calculation of either the additional expense of caretaker, light and fuel, nor for the possible income from letting part of the buildings to horticultural societies or the great hall for meetings, &c. Your committee believe that a sufficient sum to cover the erection of the necessary buildings may be raised by public subscription towards which promises amounting to £8,000 have already been received. Signed, on behalf of the committee, TREVOR LAWRENCE."

The following is the memorandum:—"The council of the Royal Horticultural Society consider it desirable at the present juncture to make to the Fellows a general statement of the policy they intend to pursue. The council are fully aware that a considerable number of Fellows desire that a garden better situated than Chiswick should be secured as a memorial of the centenary of the society. It was also shown unmistakably at the late general meeting that a widely-felt desire exists that a better hall and offices should be provided, which the society would have completely under its own control. The council desire to carry both these objects to a successful issue, and looking at the history of the society during recent years, they see no reason why this should not be done. The practical question of the moment is—which of the two shall have precedence, as they certainly cannot both be proceeded with at the same time. The policy of the existing council is to endeavour to secure, first, a suitable hall and offices near those now occupied at Westminster, and, when that is done, to devote their attention at once to the acquisition of a site for a new garden.

"The reasons which actuate the council in adopting this order are many, and among the more important are the following: 1. They consider it to be the more generally acceptable to those Fellows who take an active part in promoting the welfare of the society. 2. They have already received promises of financial support to the extent of £8,000 towards the building, whereas no such support has at present been tendered towards securing a garden. 3. A site for a hall 400 yards from Victoria Street and in a rapidly-improving neighbourhood as good as can ever be expected to be within the means of the society is at our disposal. 4. The council are of opinion, and have been professionally advised that the rent asked is a moderate one, and is within the means of the society. The proposed lease is for 999 years, which is equivalent to a freehold. 5. They are also of an opinion that the provision of a good

hall and offices would in itself attract a large number of new Fellows, and would in that respect help the subsequent acquisition of a garden.

"It should be noted that it has been found necessary to take the decision of the Fellows without any delay, owing to the obligation of terminating certain leases at Lady Day. The council confidently appeal to the Fellows, of whom they hope to see a full attendance at the Drill Hall on the 21st at 3 p.m., to support the policy briefly outlined in this memorandum. They trust that the Fellows will not allow the society to be placed in the undignified position of doing nothing to celebrate so memorable an occasion as its centenary, which would be the probable result of the rejection of this proposal. The council hope to be in a position to place preliminary plans and estimates before the Fellows on the 21st. Having regard to the unbroken continuance of large additions to the Fellowship roll, and to the ever-increasing interest taken throughout the Empire in every branch of horticulture, the council feel that they will not appeal in vain for the funds necessary to provide a satisfactory hall and offices without serious encroachment on the invested funds of the society.—By order of the Council.

"March 11, 1902. W. WILKS, Secretary."

OBITUARY.

MR. JAMES TEGG.

THE death of Mr. James Tegg at Wokingham, on the 5th inst., removes from horticultural circles one who had been before the gardening community for a number of years, and who, back in the somewhat remote past, took a leading position as a fruit cultivator when gardener to Baron Hambro at Roehampton, exhibiting at the Royal Botanic Society and other exhibitions.

James Tegg, who was seventy years of age at the time of his death, was born at Midgham, South Berks, on March 29, 1832, and he gained his early experience of gardening while in the once celebrated nursery of Mr. Henry Groom, Clapham Rise, Clapham. From thence he went as journeyman to a place at Driffild, Yorkshire, and later on was foreman at Messrs. Maudesley and Sons, at Norwood.

After leaving there he filled the post of foreman under his father at Dover House, Roehampton, where he remained until he accepted the appointment of head gardener to Baron Hambro, Roehampton, where he remained for about ten and a half years, and while there made a considerable reputation as a cultivator and exhibitor of fruit. From Roehampton he went to Clumber, Worksop, Notts, about 1865, as head gardener to the late Duke of Newcastle, and was there for about the space of five years. In July, 1870, the post of gardener to the late Mr. John Walter, at Bearwood, Wokingham, became vacant, and Mr. Tegg was appointed, and for the space of thirty-one years held the positions of gardener and forester, and during that time he worked out many improvements which added greatly to the beauty of the grounds surrounding the mansion. Of the many new features added during Mr. Tegg's charge was the planting of the Wellingtonia Avenue, the laying out of a new kitchen garden, the sunken hardy plant garden near the mansion, and the gradual extension of the pleasure grounds in various directions. A new palatial mansion was also built, and this afforded Mr. Tegg opportunities for introducing features of a highly valuable and artistic character. Few men took greater pride in their work than did Mr. Tegg. Every part of the grounds was kept in admirable order. He was a man of amazing active habits, and his merits as a fruit and vegetable cultivator were widely known. He retired from the charge of Bearwood about two years ago through failing health, and lived at Wokingham. He was buried in Bearwood Churchyard.

Mr. Tegg had the honour of making the first bouquet presented to Her Majesty Queen Alexandra

on her first arrival in England. It was made to the order of Baron Hambro, and was presented to the then Princess Alexandra by the Danish Ambassador. R. D.

NOTES OF THE WEEK.

Rudbeckia conspicua.—Can "E. M." tell me where this plant, recommended on page 154, is described and by whom it was named? No such name is enumerated in "Index Kewensis," or by Asa Gray, who is the chief authority for the genus *Rudbeckia*. We have far too many unauthorised names amongst hardy plants, and the more of them that are eliminated the better for gardeners.—C. W. DODD, *Edge Hall, Malpas*.

Mr. Norman Gill, Assistant Curator, Royal Botanic Gardens, Calcutta, has been appointed Superintendent of the Government Memorial Gardens, Cawnpore, *vice* Meyer, retired, and left Calcutta last week to join his appointment. He will be succeeded, we understand, by Mr. H. F. Green, from Mungpoo. Mr. Gill went to India from the Royal Gardens, Kew.

Horticultural Club.—A delightful evening was spent at the club on Tuesday last, the occasion of the monthly dinner. In the absence of the chairman, Sir J. T. D. Llewellyn, Bart., the chair was occupied by the vice-chairman, H. J. Veitch, Esq. Amongst those present were the Revs. W. Wilks and F. R. Burnside, Messrs. C. E. Shea, G. Monro, G. Paul, J. Asbee, J. Walker, E. T. Cook, W. J. Jefferies, R. P. Barr, R. W. Wallace, H. E. Molyneux, R. Sydenham, J. Hudson, R. C. Notcutt, A. Perry, and J. Pinches. Mr. C. E. Pearson opened the usual informal after-dinner proceedings with most interesting notes about "Birds in their relation to Horticulture," which Mr. Wilks has promised to publish in the *Journal of the Royal Horticultural Society*. Dr. Henry will be the guest of the club on April 8 next. A vote of sympathy was unanimously passed with Mrs. Selie Leonard in her bereavement.

Too early seed sowing.—The present season will have shown the evils of premature seed sowing, as, with severe frost in all parts of the kingdom, the early sown seed, even should it germinate, is often much weakened. Fleshy seeds decay and the seedlings fail to grow. Take the Marrow varieties sown before the frost. These I find in heavy soils are in a poor condition; indeed, I would not advise sowing this kind of Peas until the soil is sufficiently warmed by the sun to assist germination. I recently saw a very good lot of seed Potatoes that had been planted in light soil—the variety being Ashleafs—ruined, as the frost had quite killed the eyes, and when the seed is costly this is a great loss. At times the seed or tuber is condemned, and not the grower or the weather. There is no gain in sowing too early as the crop does not repay the cultivator, and often the losses are too great. If a small percentage of seeds grow the others are lost. Far better sow when the land is in suitable condition to assist growth, as with weak seed there is no saving of time but the reverse.—A. C.

Strelitzia Reginae var. citrina.—In the Mexican house at Kew the various groups of *Strelitzias* always attract much attention from the visitors in early spring, the curiously-shaped flowers with the striking contrast of colour making them most conspicuous. The typical *Reginae* with its orange and deep blue flowers is far better known than is the lemon-coloured variety, for while the type has been known in English gardens for about 130 years, this variety has not been long grown. It was brought to Kew in 1887 from South Africa by Mr. W. Watson, and was planted in its present position five years ago. It is now in flower and may be compared with the type which is in flower a few feet away. Its flowers are lemon and pale blue, and in habit it is much dwarfer in every way—though the flowers are about the same size—than the type. Planted out in a thoroughly drained border of loamy soil in an intermediate temperature these *Strelitzias* are perfectly at home, and succeed much better than when grown in pots.—W. D.

Butter or Sugar Beans.—The remarks on page 132 concerning the new Butter Beans I advised growers who like vegetables of good quality to grow are misleading, as "F. F." cannot have grown the variety in question, and because that writer has failed with one variety it is not fair to condemn all. I am pleased to note that others appreciate these vegetables. The Rev. P. Clementi-Smith, on page 135, gives a very different account of these vegetables, and says these Beans are delicately flavoured. This is my experience. With regard to cooking, Butter Beans are often badly managed. They should not be stringy, as "F. F." implies, and the one I advised, Sutton's New Dwarf, is not so. I advised the new Bean because it is so tender, succulent, and worthy of a place in all gardens. I also advised cooking these varieties whole, as on the continent. I did not condemn restaurants in this country, but "F. F." will notice I said the Beans served in these places in this country were sliced, whereas they should be served whole and when quite young.—G. W. S.

Androsace lanuginosa.—Few alpine plants form such a charming picture as *Androsace lanuginosa* when at its best and grown in sufficient quantity to provide a distinct feature in the rock garden, as in the accompanying illustration. Here the *Androsace*, rooted in deep pockets of the rock work, falls from ledge to ledge in a very cataract of blossom fully 6 feet in length, and from 2 feet to 3 feet in breadth, a sight worth going miles to see, but rarely to be met with in the British Isles. Propagated easily by means of cuttings of the current year's growth in the autumn, which should be inserted in very sandy compost, plantations may be made in the early spring, when, if the young plants are placed 3 inches or so from one another, a good effect is obtained the first season. A compost of fibrous loam and leaf-mould in equal proportions mixed with grit and limestone chippings proves well adapted to its wants, while a depth of at least 18 inches of soil should be provided, as in a shallow pocket one cannot expect vigorous health. It is advisable to plant so that the growths may hang over a perpendicular stone rather than lie upon a flat bed of soil. In the latter case the surface should be covered with stone chips, which will prove useful both in retaining moisture and in preventing the silvery foliage being soiled by the earth. This *Androsace* is perfectly hardy as regards frost, having been known in English gardens to withstand unprotected a temperature some degrees below zero without being harmed, but our damp winters often work havoc with it, and it is therefore advisable to protect it from becoming sodden with rain by fixing panes of glass horizontally over it, which, while allowing the air free access to the plants, prevent their being affected by excess of moisture. The old shoots should be cut away at least every other year, as if this is neglected the plants become straggling and cease to be ornamental. *Androsace lanuginosa* is considered by some to be difficult of culture, but where the precautions mentioned are taken it will generally be found one of the easiest to grow as well as one of the most beautiful of the alpine. Its period of bloom is a very lengthened one, commencing in May and often extending until October.—S. W. FITZHERBERT.

Crested Begonias.—The crested *Begonias* referred to on page 125 are certainly distinct, but as far as my experience of them extends they have usually a more or less unhappy look. The crest seems to be the outcome of a certain congested state of the petals, and when as sometimes happens this congestion extends also to the leaves, the plant is then rendered (to my mind) even less attractive, but still, everyone to his taste. The varieties in cultivation belonging to this class may be but forerunners of a quite distinct section, for

when one remembers the few Andean species from whence all these garden forms of the tuberous rooted *Begonia* have sprung, the great changes that have been already effected are most apparent.—H. P.

Viola Blue Bell.—What wonderful vitality there must be in this old *Viola* that it should become the subject of discussion in *THE GARDEN* some thirty years after it originated. As one of its sponsors I have watched its career with great interest. There is no *Viola* in commerce grown so extensively for the market trade, and the reason is obvious—it has a better constitution and far more enduring qualities than any other. That is no doubt due to its comparatively natural origin, whereas the great bulk of *Violas* have been the product of much hybridisation, hence they make a fine show for a short time, then give out. For many years *Blue Bell* has been used in great quantities at Hampton Court, and no plant can excel it for beauty or permanence when it is associated with the variegated *Dactylis* as an edging. I am pleased to learn that the practice of exhibiting *Violas* in sprays, grown only for that

There is a variety in cultivation with red flowers known as *rubra*.—W. DALLIMORE.

Autumn - sown Sweet Peas.—A correspondent living at Richmond writes to enquire about autumn-sown Sweet Peas. This treatment is much to be advised in places where success is usual, as, like all autumn-sown annuals, they are more vigorous, and the flowers are larger and of better quality and substance than are yielded by spring-sown plants. We know of them now doing well in a garden, on very poor soil, within an hour south-west of London, but the garden stands high and dry, and though they have had no protection other than that of a shallow trench, have endured a long spell of frost (some nights as much as 20°), they are in perfect health and of excellent promise. No doubt the greater damp of the Thames valley, and perhaps more wet at the root, accounts for their failure there. Sometimes if September is warm and damp, the plants get unduly pushed on and are cut off by frost. Sowing in October may be a safer rule, especially in damp or valley land. In a sheltered kitchen garden on high ground in a dry soil we have had them



ANDROSACE LANUGINOSA ON THE ROCK GARDEN.

purpose, is dying out. In no way has greater fictitious interest been aroused in these plants than in such a way. How many such prize *Violas* have been useless bedders.—A. D.

Prunus davidiana.—The severe weather experienced during the first three weeks of February has made this plant open its blossoms several weeks later than usual. In January plants in sheltered positions were coming into blossom, and had the weather kept mild many trees would have been in full flower before the middle of February. It is the first to flower of all the species of *Prunus*, being several weeks in advance of any other. It belongs to the section which includes the Almond and Peach, and closely resembles them in leaf. In habit it is rather looser, and the branches are more slender than in either of the others. The flowers are white or flushed with pink, and are borne along the whole of last year's wood. At Kew a number of trees may now be seen in flower, of which the best flowered specimen—a fine young tree 14 feet high—is near the south end of the Rhododendron dell. For planting in gardens as isolated specimens or in shrubberies, this Chinese species is an excellent subject, its earliness making it particularly welcome.

splendid in size, and in flower in the last days of May, from seed sown in the middle of September.

The Thomas Rochford Memorial.—The members of the Turnford Hall Working Men's Institute, founded in 1896 by the late Mr. Thomas Rochford, who died on October 12, 1901, have placed in their club room a permanent memorial of their late beloved president. It is a beautiful oil painting, executed by Mr. Fry of Camden Square, and bears the inscription "Thomas Rochford. Born 1849. Died 1901. Founder and first President of the Turnford Hall Nurseries Institute. Subscribed for and presented to the Institute by the members." The unveiling ceremony was performed on Thursday evening last by Mr. Joseph Rochford. Mr. H. Kelsall, general manager, presided, and Mr. T. P. Trounce, manager of the London and County Bank, delivered an interesting address on the life work of the deceased gentleman. He was no ordinary man, he said, whom they had met to honour, but a man endowed with exceptional attainments, and one who, in whatever path of life he trod, was bound to be followed by success. He was frank and ever ready to assist by advice or otherwise those who

came openly to him, but he denied any who tried by subterfuge or deceit to secure his favour. His energy was not devoted to the accumulation of personal wealth alone, for he took in more land as it were, and scattered more seed, thus making more employment for reapers and gleaners. No man better deserved the fruits of his labour, and he was wont to mingle in the pastimes and the pleasures of his men. His entire sympathy was with those who worked for him. It was the man who came nearest to true humanity who would dwell in the hearts and minds of men; the man who was loving to his family, faithful to his friends, generous to his employes, and true to his God. Such a man was Thomas Rochford. Mr. E. B. Barnard, Sawbridgeworth, who also addressed the meeting, said the late Mr. Rochford was an idealist, who secured success in many business and material affairs, but more than that he secured the esteem of all who knew him. Other gentlemen addressed the meeting, and an enlarged photograph by Mr. H. Clements was gratefully accepted by the members, as were also one or two other gifts reminiscent of the late Mr. Thomas Rochford.

THE ROSE GARDEN.

PRUNING ROSES.

A VERY suggestive remark from a gardener was made to the writer recently regarding pruning. Speaking of various climbing Roses, and of Reine Marie Henriette in particular, he said some arches covered with this fine Rose were a perfect mass of bloom last summer, and a further beautiful display was again given in the autumn, but the plants that year had no pruning whatever: in fact, he said we simply "had not time to prune them." It occurred to me, not for the first time, that the many beautiful climbing Roses receive far more pruning than they require. Thin out freely after the first display of flowers the old and exhausted wood, jealously preserving the new growths of the current season, and there will be fewer complaints of blossomless Roses. It is possible that the tender shoots will in various localities be somewhat injured by the spring frosts; but the injury is not always so

great as it appears. A good syringing with cold water, applied before sunrise, will do much towards removing the frost from these tender growths. Where climbing Roses upon walls have become rather bare towards the base, cut back one or two of the oldest growths to the ground. This will usually result in the case of vigorous plants of a new set of shoots from the base. But where plants are of considerable age it is a good plan to unfasten them from the wall and replace the main shoots in zigzag fashion. The check to the flow of sap will in time compel new wood to break out at each bend, so that by bending the main shoots as low down as possible the desired growths will be produced.

I am convinced we do not pay sufficient attention to new wood, and too much to the old growths. Take an ordinary Hybrid Perpetual as an example. One strong well-ripened growth of last summer, 1 inch to 1½ inch in circumference, will produce three and four shoots this season. Now why, if such growths be present on a plant, is it necessary also to retain a number of thin twiggy shoots that can only rob the better growth of its sustenance and will also produce thin and undersized blossoms? What I always advise is to severely cut away the three year old growths and cut back the one year wood according to the vigour of the variety. Roses, such as Her Majesty, Olo, &c., should have last season's wood retained as much as 2 feet in length, and other varieties in like proportion. Decorative or bedding Roses should be less rigorously dealt with in the matter of reducing shoots, but even these pay for encouraging new wood from the base, and to secure these a growth or two should be cut back hard each year.

Free the centres of superfluous shoots, only shortening the main growths a little. If these decorative Roses are to be a success as garden plants the wholesale cutting of the flowers must be strenuously forbidden. A vase of long-stemmed Rose blooms is a very beautiful object in a room, but the plants quickly deteriorate under the severe treatment too much in vogue. It is very well to say our American friends can produce Roses with stems 3 feet long, but one must remember that the plants are rarely kept more than one season. They find it necessary to raise up fresh stock every year. Where cut flowers are in much demand a set of plants should be planted in the reserve garden for cutting from, replacing them every other year if required.

PHILOMEL.

A DAY IN A JAMAICA GARDEN.

(Continued from page 137.)

HARDLY have I taken up my after breakfast paper as it seems (and let no one suspect forty winks, daylight is too precious), than I am called to see the gutter with the water released and flowing freely. A good job well done, which gains its meed of praise, and a deepening of other parts of the rill, running on now as a natural miniature stream round the curves of the hillside till it meets a cemented conduit which carries it down to the house, is suggested. For we have to provide for yet more water for the new stream which is to be created and will leap down in great jumps from the hill opposite the house. In its first stretch, a length of 60 feet measured along the ground, it falls 40 feet, which means opportunities. One such leaping stream runs through the garden and is a never-failing source of pleasure. Only last week did it occur to me to double the pleasure by having two. The afternoon is taken up in superintending the course of the new channel. Here shall be a fall, there a slide, this way must it wind and that, here as it meets the first level by the Rose garden shall be a spout whereat to fill watering-pots. Hitherto we have had to carry from the house a hundred paces away. The stream will flow evenly here after its breakeck descent, but not for long. It follows the path through the Coffee and plunges down again, this time for a greater rush of 80 feet in height and little more than 80 feet by the slope. But that is to-morrow's work. It is time to "knock off" and my time for the evening round. The Primrose Four-o'clocks (*Mirabilis Jalapa flava*) have long been out, and there is but a short hour to six o'clock and darkness. Very successful these Four-o'clocks—better known as Marvel of Peru—have been, and they fill up gaps in the border against the house where the afternoon sun beats hard. They are very sweet and mix their perfume, which is quite their own, with the vanilla scent of those *Pancratiums* (*P. caribaeum*—*Hymenocallis caribaea*) that we call Spider Lilies. *Begonia rubra* and *Acalypha wilkesiana* supply colour. White stars cover the bush of *Jasminum pubescens* at the front door. It rests on a Seville Orange and would kill a less sturdy tree. But a Seville Orange is not to be killed. I did my best with this one, thinking it would tear down the wall in which it grows, the wall supporting the platform on which the house stands. I hacked and battered it, tore off the young shoots as soon as they sprung. It was a

hopeless struggle and I gave it up, and am glad now of the living prop which keeps the Jasmine's head from the window. And the wall still stands. A fiery archway of *Combretum purpureum* now burning itself out leads to the Square Garden, the only level piece of ground in the place. It is eighteen paces long and actually nine paces wide. Nowhere else on the hillside is there room for anything more than a narrow border and a path.

Lilies, Begonias, Roses, *Alôë socotrina* with 6 feet branched spikes of pleasant low-toned pink, *Heliotrope* of the lightest shade, Balsams blood pink and warm white, that is what I see in the Square Garden this November evening. And in the border towards the house, raised knee-high from the level, are Carnations and Salmon Queen Indian Pinks, the latter doing duty as Alpines in chinks of the wall. Passing down some winding stone steps we leave the region of red and enter the domain of blue, tenanted by two of the bluest of the Michaelmas Pansies, one of them being *Aster cordifolius elegans*, a much prized recent addition from home. White Petunias hold an important place here, some pure white, others veined with grey; and there are a few palest yellow Zinnias and Jamaica Forget-me-nots (*Browallia*) of two kinds, the small wild *B. demissa*, among which here and there a white one, and the larger *B. speciosa major*, an excellent plant of a good purple but



CRINUM GIGANTEUM IN A JAMAICA WILD GARDEN.



VIEW FROM THE BUNGALOW IN A JAMAICA GARDEN.

lacking something of the quality of the others as they grow together. It holds itself less well and often wants supporting, rather a greenhouse plant than an out-of-door one.

W. J.

(To be continued.)

EXHIBITION VEGETABLES.

(Continued from page 157.)

CAULIFLOWERS.

CAULIFLOWERS when well shown form an attractive and valuable feature of all vegetable competitions. No matter what the season of the year may be and the size of the collections, neither Cauliflowers nor Broccoli must be excluded, but, whenever possible, of the two give preference to the Cauliflower. Consequently, strenuous efforts should be made to get medium-sized, close, pearly white heads in the freshest possible condition, and to obtain these make frequent small sowings of suitable varieties. Liberal culture is necessary. For early supplies in the spring the sowings should be made in the autumn, one during the first week in September and another about the 25th of the month, on a south border in the open. The seed should be sown thinly in beds as advised for other sowings of the Brassica tribe, and securely netted. When large enough to handle, prick the seedlings out in cold frames 4 inches apart each way in soil not over rich, otherwise too much growth will be made. Give air freely on all favourable occasions, but never allow the plants to become dust dry. In severe weather protect the lights with some covering material. Two good varieties for this sowing are Walcheren, an old favourite, but still good, and Veitch's Autumn Giant. Many of the latter will become blind from this sowing after they are planted out, but it is important to grow this variety, as it produces heads of the finest quality after the Walcheren and when Cauliflowers are scarce. It is a good practice to plant for this crop just as thick again as required; then a good supply is

ensured. For the main crop plantations should be made at the end of March or beginning of April, putting out the best plants on a south border, 2 feet 6 inches between the rows and 2 feet from plant to plant. Lift with a good ball of soil, and plant with a trowel. To prolong the supply, plant a batch in an open situation and a third on a north border. Early in February and again in March sowings should be made for later supplies, growing on freely and planting out as soon as hardened off. Make a sowing about April 10 for late autumn use, suitable varieties being Magnum Bonum, Walcheren, and Autumn Giant. When planting out the rows should be 3 feet apart, with a distance of 2 feet from plant to plant. Almost any soil will grow Cauliflowers when it is thoroughly trenched and well manured. This crop revels in copious supplies of liquid manure, and, if good heads are wished for, this generous treatment is most essential. Hoe constantly all through the growing season to keep weeds in check; this also contributes towards successful culture. Cauliflowers may be kept in fresh and good condition for at least a fortnight if lifted before they are fully developed and hung up head downwards in a cellar or some other cool place. A common mistake in exhibiting Cauliflowers in the majority of cases is that they are staged too large, and why judges so often favour these I am at a loss to understand.

CELERY.

Celery is frequently not so well shown on the exhibition stage as it should be, but when well-grown specimens free from blemishes are staged it is highly attractive and shows the skill of the cultivator. Some object to large specimens, but in my opinion this is a mistake, providing of course they are solid, and when cut with a knife the heart is close to the root. Two sowings of seed at least should be made, the first not later than the middle of February, and the second the first week in March. Soil of a moderately light texture should be used, but not rich; a mixture of half leaf

soil and half light loam finely sifted, with a moderate addition of either road or coarse silver sand, forming a suitable compost.

The pots or pans should be well drained and raise the seedlings in a gentle heat, taking care that at no stage of growth any check whatever is experienced, the most serious of all being an absence of moisture at the roots, especially when in the seed pans. When this is the case a large proportion frequently run prematurely to seed. When the seedlings are large enough to handle prick them off 3 inches apart in boxes, using a light sandy soil. Return the boxes to a gentle heat, gradually hardening the seedlings as they get established before planting out. This applies to the first sowing. From the second sowing the seedlings may be pricked out in any warm sheltered part of the garden where a rough framework can be placed round them for protection. Shade from hot sun and give shelter from cold drying winds for a time, also covering them up in some way during cold nights. A large number of varieties are in commerce, many of which are excellent and many practically worthless, either for exhibition or home consumption. I have made repeated trials on a large scale of most of the known kinds and arrived at the conclusion that the two

best red varieties are Standard Bearer and Major Clarkes; and of white, White Gem, Sutton's Solid White, and Wright's Giant White. White Gem is especially adapted for early use.

Celery is often required for shows during August and September, and in large collections of vegetables it is essential. No time should therefore be lost in getting plants put out into well prepared trenches immediately they are sufficiently large enough, and if well hardened beforehand they will be practically safe against all weathers. For the earliest supplies the trenches should be 15 inches wide 1 foot deep, and below this the soil broken up to the depth of 10 inches with the fork; a distance of 3 feet between the trenches will suffice. Fill in to within 3 inches of the top of the trench with the best manure available, which must be made as firm as possible by well treading it. Cover this with 3 inches of the soil previously taken out of the trench, level down before planting, and if possible this should be accomplished a week or two before the plants are put out. Plant in single rows, leaving a space of 10 inches between each plant. Each should be lifted carefully with a garden trowel, disturbing the roots as little as possible. When planting, commence at one end, walking backwards and pressing the soil firmly round the roots.

The next batch will include the larger varieties, such as Standard Bearer. Plant these 1 foot apart, allowing a distance of 3 feet 6 inches between each trench, and give copious supplies of water all through the growing season; indeed, during spells of dry weather it is almost impossible to supply too much. Being a gross feeder manure water may be added quite freely. I prefer sewage water to any other. Soot should be dusted over the plants in the early morning once a week at least, and this will help to keep the Celery fly in check as well as prove an excellent stimulant. Should the Celery fly at any time prove troublesome, pick off all affected leaves.

burn them, and at the same time give extra dustings of soot. Blanching may be satisfactorily carried out in from six to eight weeks, but before doing so carefully remove all side growths and split and decayed leaves. Give a thorough drenching of water before commencing. When the growths are thoroughly dry, stout brown paper bands 5 inches in width and long enough to go round the plant should be placed in position and tied moderately tight with raffia in three places. Work sufficient soil round them to exclude all light and air. Watering must not be discontinued, but be given at the roots, both clear and liquid manure, about every eight days. Immediately the heart shows above the brown paper band add another strip and work up the soil as before until a sufficient length is being blanched. When completed, 6 inches at least of the leaves must be left unpapered. It is well during the blanching process to undo the material and carefully examine it to make sure that no decayed leaves, slugs, or worms are spoiling the specimens. In warm, dry weather, damp over the plants with clean water from a fine rose can morning and afternoon. This is most beneficial and promotes a quick and free growth. Lift the specimens the day before they are wanted, removing only the worst of the outside leaves and washing off all dirt. Stand them head downwards and give a thorough syringing with clean water. Finally reverse their position and give the last rinsing. It is usual to stage either three or six sticks, arranging them in triangular fashion. At the last moment when staging, trim off the bottom with a sharp knife, and wipe the sticks with a damp clean sponge. Slightly spray them over and keep covered with white paper.

E. BECKETT.

(To be continued.)

NOTES ON HARDY PLANTS

HYBRID AQUILEGIAS.

I AM surprised to read that hybrid Aquilegias have been found rather tender. That is far from being general experience. The writer of that remark would not think so could he see the great masses of these truly beautiful Columbines such as many of our seed growers have. The display every year at Eynsford, or Langley, or Reading, out of many, is worth going many miles for. When some years since I crossed *A. chrysantha* with *A. corulea*, and raised a batch of so-called hybrids, I had a row of the latter growing beside rows of the parents, and the children quite beat the parents for strength, freedom, and beauty. Practically the fusion of the two species created a race of greater robustness. That is universal experience. Aquilegias need ample room, good holding soil, and some manure, but they need nothing that is exceptional in treatment. We have no perennials more beautiful, more easily raised and grown than are these hybrid Aquilegias. What would readers say to see a breadth of from 5,000 to 6,000 strong plants in the open field flowering gloriously at once? Verily a sight for the gods!—A. D.

PROPAGATING GYPSOPHILA PANICULATA.

AMONG the many suggestive things in Mr. Amos Perry's paper on the improvement of hardy flowers was a remark made about the double variety of *Gypsophila paniculata*, a plant in which I have taken a great deal of interest, especially as I had an opportunity of seeing flowers soon after it was raised. At that time I put the question, "How was it to be propagated?" I asked it because I had found it impossible to strike cuttings

of a superior form of the single *G. paniculata*, which I have had here for a good few years, and which some of my friends have coveted. With a single form one can possibly raise one like it from seed, but this cannot be done with this double variety. I have asked several propagators, but up till now know of none who can strike this plant satisfactorily. From what Mr. Perry tells us, there is not much hope of striking cuttings of this *Gypsophila* in the ordinary way, and I should be glad to hear from anyone who has been successful in raising *G. paniculata* from cuttings.

S. ARNOTT.

TIGRIDIAS—THEIR CULTURE.

OF the many bulbous Irids indigenous to North America that have been introduced to our gardens from time to time, none have been so useful as the Tigridias. Their massive flowers, which breeders have lately striven to improve, are as striking and varied in colour as one could desire. They are all brilliant, even the pure white immaculata glistens as though frosted, whilst the others are gorgeous. The fleeting character of the flowers is a great disadvantage, but it is in part compensated for by the quantity each plant produces, inasmuch that as soon as one flower has lived its day another is ready to take its place on the morrow, if not from the same sheath at least from a sister spike produced by the same bulb stock. There are about eight distinct plants, all of which are much alike in form and habit, differing only in size and colouring.

T. Pavonia, the species, has scarlet flowers with an orange-yellow basin, also spotted scarlet, and of a smaller size than any of the following, save *Conchiflora*, rarely exceeding 5 inches in diameter. *Grandiflora* is a big-flowered form, with wide rounded petals, which give the flower a fuller and more finished appearance. It has often been called *speciosa*, a name also used for *T. pavonia* on the continent. *Alba* has white petal lobes, the basin of the flower being greenish white, heavily spotted and blotched crimson. It averages 6 inches in full diameter, and has elegantly rounded petal lobes of stout substance. *Immaculata* is pure white, and averages 6 inches to 7 inches in diameter. It is devoid of any spotting whatever. The free lobes of the petals are as broad as they are long. Though normally pure white, under certain cultural conditions it shows a slight greenish tint in the basin of the flower occasionally; it is also tinted that pale shade of sulphur-yellow known to artists as "chrome No. 1," well illustrated in *Chrysanthemum Mrs. Mease*, a bit of sportive colouring that improves the flower very much.

T. lilacea, the grand form, of which a coloured plate was issued with THE GARDEN, March 31, 1894, has a white basin, heavily blotched with rich dark red, the free lobes of the petals are coloured a rich glowing red, lilac tinted on the reverse, and showing also a lilac sheen on the upper surface, which intensifies as the flower approaches the end of its day. This is an exceptionally fine form of a showy race, now, unfortunately, becoming very scarce. In size and vigour it is the counterpart of *Immaculata*.

T. aurea = *Watkinsoni* of Continental growers, has flowers of medium size, the outer petal lobes of which are coloured old gold, the basin of the flower being heavily spotted and blotched purple.

T. conchiflora.—This pretty Mexican shell flower has pale yellow flowers of small size, the basins of which are almost entirely covered with crimson blotches. There is a quiet charm in their perfect shape, colouring, and finish; it is, however, of weakly constitution, and too apt to rot at the base of the bulb.

T. rosea, a slender plant with soft rose-coloured flowers of small size and lutea immaculata, another small-flowered form sufficiently described by its name, are two forms better known on the Continent than here.

THE CULTIVATION OF TIGRIDIAS

is an easy matter. A warm border with shelter from cold winds should be chosen for them. They are not particular as to soil, provided it is well worked and in tolerably good condition. Planting

may be done in March, or earlier if the brunt of the winter is over, inserting the bulbs 4 inches deep, giving them a slight mulch of stable manure to ward off any sharp frosts that may occur subsequent to planting. In warm districts having a well-drained subsoil of gravel, the bulbs may be left out all the winter if protected, but generally it is best to lift them and store—either by puddling them in a box of mud, allowing the mud to dry gradually (the best method), or by inserting the bulbs closely together in soil or sand in a frost-proof place. I am indebted to an American horticulturist for valuable advice given to me years ago as to the best way of growing Tigridias. His practice in America was to plant in depressed beds and to flood the plants as soon as the leafage was well advanced, and again several times during June and July. I have followed this practice now for several years, and have frequently been astonished at the vigorous growth the plants made and the profusion of fine flowers they yielded, far exceeding anything I have ever obtained or seen before.

GEO. B. MALLETT.

THE FRUIT GARDEN.

PEACH ROYAL ASCOT.

JUDGING from the fact that it is seldom met with this Peach, though an old variety, does not seem to be very well known. This is to be regretted, as it is a good and constant cropper and of excellent quality. Added to this it is hardy and not subject to mildew. A friend has it growing on the back wall of an unheated house, Royal George occupying the front trellis. The situation is damp, being close to the river, and Royal George is almost annually attacked by mildew, while Royal Ascot escapes. It was sent out by the late Mr. Standish, of the Royal Nurseries, Ascot, and is also known by the name of Marquis of Downshire. These whose gardens occupy low positions and whose Peach trees are consequently affected by mildew should give Royal Ascot a trial.

WINTER FEEDING OF FRUIT TREES.

If much of the liquid manure that is allowed to run to waste during the winter months were given to the roots of fruit trees any time after the leaves fall and before the buds again burst into growth in the spring beneficial results would follow. No stimulant that I am acquainted with will give such a flip to growth as will liquid manure, especially to large orchard trees upon grass, where the roots are so far away as to be practically out of the reach of surface dressings of solid manure. Select dry weather for the application, and give to each tree a thorough soaking for yards away from the stem, as it is not the large branch-like roots that are benefited but the small fibrous ones.—E. M.

LITTLE KNOWN APPLES.

THERE are certain varieties of Apples that are little known to Apple growers generally, and unfortunately so. I do not allude to varieties that are peculiar to certain localities, although some of these are valuable and deserve to be more generally cultivated. For instance, Nanny or Sussex Apple, so well known in Sussex and parts of Hampshire, is quite one of the best of dessert Apples, ripening in October before such varieties as King of the Pippins are in, and after Worcester Pearmain is over. It is of medium size, a heavy cropper, and bright in colour, which is a point in its favour as a market Apple.

Chatley's Kernel produces medium sized shapely fruit, deep red on the sunny side, and thickly covered with white spots; it keeps sound a long time, is a good grower, and crops heavily. As a late kitchen Apple it is valuable, succeeding well as an espalier.

Cockpit is not generally known outside Yorkshire, where it is regarded as one of the best of free-bearing kitchen Apples of medium size. Briskly yet pleasantly flavoured, the fruit when upon the tree is dark green in colour, changing when stored to a golden yellow.

French Crab or Easter Pippin is an Apple not nearly enough grown. When harvested in proper condition and with ordinary storage it is certain to keep well until May. Although this Apple is known under nine different names, it is still far from common.

Kirk's Fame, ripening at the end of October, is a richly flavoured dessert Apple. The medium sized fruit is quite shapely, with patches of bright red where exposed to the sun, it also has a russet appearance. In growth it is upright and quite vigorous.

Lord Burleigh.—Where this Apple succeeds it should be freely planted, as it is one of the finest late dessert varieties we have, possessing a peculiar but agreeable flavour. The medium sized fruit is dull red in colour, with a russet side.

Malster is a useful Apple, either for the kitchen or dessert. The fruit is handsome in appearance, with bright red stripes on a yellow base. Royal George is not mentioned in any catalogue. I originally obtained a tree of it from Messrs. R. Smith and Co., Worcester. It is fairly vigorous, bears freely, and the fruit is brightly coloured. It is a really good cooking variety, ripening in November.

Five Crown or London Pippin is quite one of the best of early kitchen varieties; it is very hardy and crops freely and regularly. Its semi-drooping habit recommends it as suitable for standards or half standards.

Wealthy, in sandy loam, should make a capital market Apple, possessing as it does all the necessary characteristics. The growth is upright and vigorous; the bright skinned, full sized fruits are freely produced. White Transparent is becoming better known, it ripens early, and, as a dessert variety, is valuable.

Wormsley Pippin is one of the best of orchard trees. No variety that I know crops with greater regularity, its cooking qualities being of the best; as a half standard it succeeds admirably.

Belle de Pontoise is seldom met with in an ordinary garden. To an exhibitor it cannot be other than valuable, its richly coloured skin brings it into great request for exhibition. Heavy crops of shapely fruit are annually produced. In habit of growth it is desirable, vigorous yet compact. Schoolmaster is a free bearing variety of medium size and growth, just the sort for a pyramid where space is limited.

Benoni deserves to be much better known than it is; it ripens in October, at a time when dessert Apples are scarce. In size and appearance the fruit resembles King of the Pippins, but is of superior quality; the habit of growth is quite erect. E. MOLYNEUX.

KEW NOTES.

EARLY SPRING BULBS.

AFTER a spell of cold weather, during which the thermometer fell to 22° of frost, it is mild again, and the early bulbs are pushing up, eager to leave the warmth and safety of Mother Earth for the uncertain mercies of spring-tide. Foremost amongst them is *Scilla bifolia*, which is opening its blue eyes everywhere—peeping out of the grass, sheltering under the ledges of the rock garden, or helping to hide the bare mould of the Rose beds. These, with the Crocuses and Daffodils, the Hepaticas and Cyclamens which are coming, seemingly as they will, in the wild garden of the mound, carry one back on a bright morning to spring days in Italy—not always sunny, however, and sometimes with a fierce tramontana blowing keen—where, in the rough banks bor-

dering on the Chestnut woods, clumps of these same *Scillas* nestle in the moss, where blue Hepaticas make a carpet for the Hellebores, and the grass is spread with the purple and buff of *Crocus Imperati* or the silver sheen of *C. vernus*. We grumble a good deal more than we need when we find, as we may by the example of Kew, how much can be done to acclimate South European plants such as these. What can be more lovely, even without flowers, than these marbled leaf-tufts of *Cyclamen europæum*, while *C. ibericum*, scarcely less beautiful, is every day opening more of its crimson flowers, and the pink buds of *C. Coum*, not to be left behind in the race, are beginning to light up the more sober hues of its dark round leaves. These hardy Cyclamens may be naturalised on almost any shady hedge bank or bit of bordering coppice or by a wilderness path with the smallest amount of pains and trouble. A few pinches of seed sown with judgment in likely spots might almost suffice and time would do the rest; once set going they will take care of themselves by seeding and spreading. There are two places—one in Cornwall and one in Wales—where the Cyclamens growing wild in this way have become the pride of the neighbourhood, but instances of this kind are as yet few and far between.

Many are the early bulbs brought to mind, as well as introduced for the first time to the notice of the earnest student at Kew. *Leucojum vernum*—like a Snowdrop making a "cheese" in the old-time fashion of maidens, from sheer joy of liberty, *Narcissus minor* scarce lifting its modest head above the brown soil—*Corbularia monophylla*, shivering a little in her frail hoop-petticoat, are old friends, and *Chionodoxa* amongst the Snowdrops. But some of the new-comers hold their own sturdily, and first of them all may be set down *Iris Heldreichi*. This species bids fair to become one of the fairest gems of early spring, if indeed we may not say of winter, outlasting bravely many of its kin. *I. reticulata* seldom lives more than four years, a liberal allowance. *I. histrioides* follows the example of its mate. *I. Danfordiae* does rather better, its stout little yellow flowers having more substance, but it is almost over. Looking back at notes made on the spot, a plantation of *I. Heldreichi* was sapphire-blue with flowers on January 25, five weeks ago, and still more so is it now. This is a splendid record for an *Iris*, and that a winter-flowering one. May no sinister fate show itself in the shape of the

dreaded black spot which so often wrecks our hopes with the *reticulata* breed.

So wedded are we to the idea that *Colchicums* are autumn blooming that it is a surprise to find several species in or only lately past out of flower at this season. One of these last is *C. hydrophilum*, a beautiful species which produces its clusters of lilac flowers with its leaves, as do most of the spring-blooming kinds. As its name would imply, it thrives only in wet places, a preference common to *Colchicums* in general, but in this case strongly marked. It does not fear cold, however, as it is an inhabitant of high regions in Asia Minor. *Meren-dra caucasica*, which is to all garden intents and purposes a *Colchicum*, and fairly well known where the rarer bulbs are appreciated, is now beginning to flower in the open. It has been very happy this month past in the alpine house. A near relative, *C. montanum Ritchii*, is also showing its pure white flowers, a form which is rather rare in this species, as they are usually lilac or pink. It is distinctly pretty, and the pointed flower-buds are characteristic. There are several other species, and, as time goes on, we shall probably learn to know these spring-flowering *Colchicums* better.

BRITISH HOMES AND GARDENS.

A SURREY GARDEN (LIMPSFIELD).

IT is always pleasant to see evidences of good gardening such as that shown by the illustrations from photographs by Mrs. Barry of her pretty garden at Limpsfield, Surrey. From the level of the terrace on which the house stands the ground slopes away somewhat steeply. It has been treated most judiciously, with two lower terraces and flights of steps of good width. Then comes a space of garden ground on an easy slope. The walk straight away from the house cuts right across this garden, passing under a pergola of Roses backed by Yew hedges. The pergola ends with a short



GARLANDS OF ROSES ON THE PERGOLA AT LIMPSFIELD.

flight of steps, and the Yew hedges go away right and left at a right angle for some 30 feet on each side, and then return again forward in their original direction, enclosing a wide turf walk and a large tank. The Roses are not only trained across and along but are carried in garlands from pier to pier with charming effect. A garden like this, well planned at the first, and carefully watched and tended, must indeed be a joy to its owners. Perhaps a little more (in the way of interesting detail) might have been made of the tank, but possibly this may follow.

LILY NOTES.

NOTES OF MY EXPERIENCE WITH LILIES.

LILIUM RUBELLUM.—Being a great admirer of this recently introduced Lily, and believing that it will become a garden favourite soon, I begin with a short note upon it. As we were desirous to ascertain the best way to grow *Lilium rubellum*, I got a number of imported bulbs and planted them in lots of ten or more, in very many situations and under very different conditions, in October, 1899. The result is that we found a mixture of vegetable soil and loam, and a partially shaded situation, were what suited them best. I send you a photograph of a clump in flower in partial shade at the side of a bed of hybrid Azaleas, one of the Lily stems carrying three flowers. Both this clump and another planted in the deep shade of a wood bloomed thoroughly well, but the one with more light had the higher colour.

General culture.—Though my experience in Lily growing dates back to a time when cultivators in general had not been awakened to the charms of this most beautiful family, I must still confess that we have many things yet left to learn, and perhaps some to unlearn. In some seasons, notably when cold and wet follow after drought, even practised cultivators, except in most favoured situations, find that "blight and spot" greatly injure the growth and flowering of some species, even though the bulbs may be unhurt.

The best situation for planting Lilies—at least in the southern counties—is a cool sheltered one; a very safe place is near the edge of a Rhododendron bed; soil that will grow Rhododendrons will also answer for most kinds of Lilies. I can give two examples where Lilies succeeded when left almost to themselves; one was in an old-fashioned garden with a small lawn inside the main lawn, and sheltered and partly shaded by shrubs and trees. In the centre bed, among some dwarf Rhododendrons, I planted many kinds of Lilies, all of which succeeded perfectly. Blooms of *Lilium auratum*, gathered after a week of unusually stormy weather, were taken up to the Royal Horticultural Society to show how little they had suffered. In the same garden *L. auratum* and *L. longiflorum* bloomed well in a peat Rhododendron bed, sheltered by the house, in a full southern exposure; but in this case watering was almost essential. The other situation is in the garden of a friend; his *L. auratum* are planted near the edges of large Rhododendron beds, and are partially sheltered by a high bank, and by belts of trees at some little distance; his Rhododendron soil suits the Lilies admirably, and there appears to be moisture in the soil some little way down which the roots

can reach. The result is that season after season, even in the most unfavourable ones, hardly a Lily is injured, and their flowers, on stems from 6 feet to 11 feet in height, surpass any I have seen elsewhere.

In Lancashire, not far from Rochdale, a friend has long grown *L. speciosum*, blooming it well in an exposed border without taking up the bulbs.

Most gardens have a north border where there are spaces between small shrubs; if a little peat and sandy loam is dug in, and the bulbs planted

committee of the Royal Horticultural Society used not to agree.

Lilium longiflorum, with its varieties *eximium*, *Takesima*, &c., sometimes blooms very well in borders, but care should be taken that it is not injured by spring frosts. This Lily is such an early one that, unless protected by the leaves of Rhododendrons or otherwise, its growth is apt to be checked.

This season I have one clump of *L. giganteum* with no fewer than fifteen stems and a multitude of expanding flowers. The comparatively recently-introduced North American Lilies, such as *L. Humboldtii*, *washingtonianum*, *puberulum*, *pardalinum*, *Robinsoni*, *californicum*, &c., no doubt will soon be grown perfectly in borders; but here, at least, though some thrive well, others, in places where they ought to succeed perfectly, have not always done so, the foliage of *L. Humboldtii* especially not keeping its healthy colour. Cultivators must not be discouraged when newly-imported bulbs do not show up the first season. I have just been examining two small beds, in each of which twelve fine bulbs of *L. Humboldtii* were planted. The soil of one bed consists of two parts peat and one of loam, the other of loam with a little sharp sand mixed; in neither bed the bulbs made upward growth, but, on examination, seem healthy, and have made roots. In adjoining beds, with the same two soils, a dozen *L. szovitsianum* in the peat and loam made miserable growth, while the dozen in the loam and sand bed have, many of them, flowered well and seeded. In other two beds with six *L. auratum* all came up fairly, but in the loam and sand bed the six were rather the stronger; all the bulbs were newly-imported ones. The above, I think, shows that imported bulbs of different Lilies take different times in establishing themselves, and that with cold and wet in the early part of the season the soil which suits Lilies best in normal seasons may not then give the best results.

Many of the varieties of *L. superbum* are very beautiful; they like shade and rather moist soil. Some years back—I do not know whether it still exists—there was a grand undisturbed bed of *L. superbum* at Messrs. Waterer's at Woking; the Lily was at home in the moist peat; the great tall stems, with richly-coloured flowers, had a very fine effect.

L. canadense, in all its varieties, grows easily and is very beautiful.

It is usually said, "Find the native habitat of a plant, and reproduce it as nearly as you can; if a Lily be found in shady places, grow it in shade"; but a distinguished Dutch chemist-botanist, who has himself done great things as regards the introduction of different plants, especially into Java, once showed me that this was not a universal law, or rather that what appears to be the reproduction of the habitat is really not so, and that one unattainable condition sometimes changes the whole circumstances so completely that he had known plants which, in their own country, flourished in shade, when transported, thrived best in sun. The moral is, I think, where possible, try experiments for yourself, plant a few bulbs in very different situations—the first year will tell you in which direction to steer.

One thing which I have learnt of recent years is that in situations and soil where Rhododendrons grow very luxuriantly, after a time they too much overshadow Lilies planted among them, and now that there are so many beautiful forms of hardy



ROSE PERGOLA AT LIMPSFIELD.

5 inches or 6 inches deep, Lilies are almost sure to thrive. Some Lilies, however, such as *L. candidum*, *L. Martagon*, *L. szovitsianum*, and *L. chalcedonicum*, require a stronger soil and like loam.

All the Tiger Lilies grow well in ordinary soil; the old *L. tigrinum sinense* is well known in gardens, but *L. tigrinum splendens*, which richly deserves its name, is but little known. Very many bulbs of *L. tigrinum Fortunei*, which has a very woolly stem, are sent out in mistake for *L. tigrinum splendens*, the original error having been widely extended by means of stem bulbs. *L. tigrinum splendens* has more the character of the old *L. tigrinum sinense*, only magnified in height, size of flowers, and especially size of spots. It shows beautifully in Rhododendron beds, in the centre of other beds: indeed, in any situation in which its height—7 feet or 8 feet, or, with large bulbs, probably 9 feet or more—does not disqualify it. *L. tigrinum flore-pleno* is a showy Lily which lasts long in flower. I think *L. tigrinum erectum* a desirable variety, but with this opinion the floral

Azaleas, especially hybrids of *A. mollis*, we have used these as shelter for Lilies, and in several beds where the experiment has been tried it has proved eminently successful.

Pot culture.—I must end with a few words on pot cultivation. We have some thousands of bulbs, both little and big, planted in the open, but I think there are some species which cannot be brought to their full beauty except under a roof. Perhaps the simplest way is to mention how our Lilies are treated; which species succeed well here, and which do not. Till lately the Lily house was an orchard house, 60 feet by 20 feet. In this Lilies answered very well except in very hot weather, and then some of them, when in bloom, were moved to a rough shed, open at the front and facing north. Last year a house was put up, giving as much air as possible, in our shadiest corner; it gets only the east sun. The Lilies succeed very well, and the blossoms last longer than in the orchard house. Had we the situation, a house should be placed in complete shade, for I feel sure that some Lilies would thrive best there. The soil we use for most Lilies consists of two parts fibrous peat, one part loam, and, if the last is at all stiff, some sharp sand is added. In this *L. speciosum*, *longiflorum*, *canadense*, *californicum*, *pardalinum*, *parvum*, *puberulum*, *thunbergianum*, *Coridion*, *Hansonii*, *tigrinum*, *giganteum*, and some others flourish and increase; *L. auratum*, *Krameri*, *superbum*, and *Leichtlinii* in some seasons. The last, from its distinctness, is a favourite here; we are trying it with more loam. *Chalcedonicum*, *tenuifolium*, *buschianum*, white *Martagon*, &c., bloom for a time, but the bulbs waste and we lose them. *L. Brownii* occasionally succeeds splendidly, but is uncertain; we continue trying different soils and earlier removal to the cooler house. I will not speak of some of the rarer Lilies, such as *polyphyllum*, *neilgherense*, and *wallichianum*, for we have not yet quite mastered their treatment.—G. F. WILSON, F.R.S., V.M.H., in *Journal of the Royal Horticultural Society*. (Reprinted by permission.)

THE FLOWER GARDEN.

THE GOLD-LACED POLYANTHUS.

HOW very difficult it is to raise a really fine variety of the Gold-laced section from seeds is well known to those who are in the habit of raising seedlings.

Although it is possible to raise a thousand seedlings from the best blood, not one may be up to the mark of quality of say *Cheshire Favourite*. There is a good deal of misconception abroad as to the real merits of a Gold-laced Polyanthus. It is a very difficult task indeed to obtain a seedling in which the dark ground colour is a uniform shade of red or black and the lacing absolutely free from taint; moreover, it must be uniformly of the same tint in the centre of the flower as on the petal edges, and be evenly laid on round the edges of the segments, and it must also cut down through the centre of the segments and strike the golden centre. I have raised thousands of seedlings and find it extremely difficult to get one in a season good enough to stand the test of a second year. But the very difficulty of the test should be an incentive to undertake the trial; labour, patience, and enthusiasm are absolutely necessary. To me a perfect Gold-laced Polyanthus is an object-lesson in artistic beauty, and there is a quiet fascination about such a flower. Our forefathers raised glorious varieties—*Lord Lincoln*, *George IV.*, *Pearson's Alexander*, *Cheshire Favourite*, and others. *Lord Lincoln* and *Pearson's Alexander* are, I fear, utterly lost to cultivation. I hope there are yet some plants of that very fine and distinct

variety *George IV.* about the country. *Cheshire Favourite* is, I am happy to state, still procurable; it is one of the best—perhaps at its best the most refined black ground now in cultivation. *Exile*, which has a uniform deep gold lacing, is also procurable, and with it can also be had *Miss Turner*, a black ground variety I exhibited at the National Auricula Society's exhibition in the Drill Hall in April last. *Mrs. Brownhill* and *Middleton Favourite* can only be termed second rate—that is my estimate of them after growing them two or three seasons; and red ground *Sidney Smith* is also to be had. The National Auricula Society still encourages the production of the Gold-laced section at their shows, as there is a class for three varieties, and also for one, and certificates are awarded to any new varieties of first-class merit.

If the named varieties could but reproduce themselves from seed perfectly true to character the gems of the section would of course be much more plentiful. But they do not; in fact, they seed very sparingly indeed, and the only way to secure the possession of some good seed is to fertilise the flowers by their own pollen, at the same time taking care there is no impregnation from any harmful source. It is to be earnestly desired that some one will be enterprising enough to take in hand this section, and endeavour to add to the standard varieties.

There is no lack of seed of Gold-laced Polyanthus, but much of it is of a very doubtful character. If it be possible to get some seed from a promising strain, now is a good time to sow it, doing so in a box of fairly light sandy soil, so as to have strong plants to put out in the open at the end of the summer. It is desirable to prick off the plants into a well prepared nursery bed for the summer, and plant out in early autumn, taking care that there be as much soil about the roots as possible at the time transplanting is done.

R. DEAN.

SPANISH IRIS.

So much has been written of this particular section of the Iris family, alike as to its value on the open border and for cutting, that little remains to be said. I should like, however, to note the advisability of planting them in different situations to ensure a prolonged flowering season. Finding how acceptable they were in a cut state I planted a large batch on a narrow north-west border some

few years ago, and here they have done well, growing stronger with each succeeding year, and have given a fine lot of bloom when those on the open border are over. The only drawback is that instead of coming true to colour nine-tenths of them are yellow. The remarks as to variety in the way of situations for plants to furnish cut bloom are equally applicable to many things. Among others on a similar border are *Aquilegias*, *Pyrethrums*, the double *Peach-leaved Campanula*, and the *Gardenia-flowered Poeticus*.

Claremont.

E. B.

SELECT ANNUALS.

IN summer time the garden of the amateur owes not a little of its brightness, its display of beauty and colour to the careful selection and arrangement of the best annuals. Whether of a hardy or half-hardy nature, the cultural requirements of these plants are so simple as to render the best kinds increasingly popular year by year. As the subject is now opportune, and many will be considering what to sow and plant, a few remarks bearing on the matter may be of assistance.

In the first place, let us take a glance at the important item of culture, which, if simple, will require a certain share of attention. In this matter the most that can be now done is to prepare the soil. There is a great difference in the ultimate growth and flowering of plants grown in good soil. The deep digging and manuring of the soil are the primitive and crude measures that all who wish for success will adopt. But there is something more, a something that is worthy of greater attention than it yet receives; it may, perhaps, be best explained in the following sentences. Not a few of the annuals that furnish large supplies of flowers to our gardens come to us from warmer climes than our own, not only warmer as affecting the mean temperature, but more sunny, and therefore more invigorating to this particular class of plants. Heavy soils, therefore, may receive some attention in the way of assisting porosity and free drainage, which in turn tend to warm the soil materially, and a quicker growth ensues. All heavy moisture-holding soils may be assisted now by a good dressing of old or air-slaked lime, or, again, by the addition of road sweepings and sharp grit. All these are aids in one and the same direction. Soils that are very rich may be greatly benefited by



A HOUSE AND GARDEN AT LIMPFIELD.

a heavy dressing of lime. Soils generally may be ameliorated by applying a dressing of old mortar or lime in some form or other when it is known the ground is to be occupied by such things as Iberis, Dianthus, or indeed any of the Carnation family, Lupines, Sweet Peas, and many others; the entire Aster family also are very partial to such an admixture in the soil. A very convenient method of applying lime, and within the reach of all, is either by bone-meal or in the form of superphosphate. A little more attention to these matters, and perhaps a little less of the crude manures, will make its mark on the crop to follow.

The time of planting or of sowing is of some moment, and to some extent must be governed by the desired time of flowering. Usually, however, the middle of March will be early enough in most districts for the hardiest kinds, such as are usually sown in the open, and a week or two later for the half-hardy sorts, or even longer where slight warmth is available. In the matter of seeds, the amateur, and perhaps others, all suffer because of that plague—the cheapness of seeds. This undoubtedly is the precursor of many of the ills and errors of culture that follow in the wake of the seed sowing. Were the seeds more costly fewer would be bought, whereas now they are cheap, and large quantities often obtainable for a few pence. The result of all this is thick sowing, and the seedlings coming up as thick as Mustard and Cress in a box often ruin each other long before any idea of thinning is thought of. Thin sowing in the first place, and timely and rigid thinning of the seedlings, are items of the greatest possible importance. As an example of thin sowing one has but to closely watch the development of a single seedling of Mignonette and contrast it with possibly a dozen plants in an equal space. There is not the least doubt but the single specimen will yield a higher percentage of finer flowers than the dozen. Chance seedlings of such things now and again afford much valuable information in this direction.

All the half-hardy kinds, such, for instance, as Asters, Zinnias, and many others, are not likely to suffer from the same cause, as transplanting is then essential to success. All these should be early transplanted, however, so that at planting time a good ball of earth may be secured to each plant. Particularly should it be urged in respect to the Aster that a soil free of manure be used in the raising of the seedlings with a view to promote as firm a

growth as possible. This and the additional precaution of growing the plants as hardily as possible will be helpful generally. A soil of sandy loam with a sprinkling of soot and some finely sifted old mortar rubbish will do quite well. Such are the chief items to be borne in mind in growing these extremely useful free-flowering plants.

There is now so great a wealth of annuals that it is all the more difficult to make even a selection, as so much depends upon circumstances, such as the size of the garden, the time of year the flowers are most needed, and other things. No garden, however, can afford to be without such things as *Bartonia aurea*, which is adapted for spring or autumn sowing, as is also the pretty *Limnanthes Douglasii*, with white and yellow blossoms that are also most attractive to bees. A good selection of Candy-tuft, particularly the dark crimson and the near shades, make most effective masses, while the Marguerite Carnations will be everywhere popular. Cornflowers in many shades, the varieties of *Chrysanthemum tricoloras* also the double white and yellow sorts are simply indispensable. The Clarkias, *Convolvuli*, the many beautiful *Dianthi*, especially *D. Hedderwigi* var., are everywhere esteemed. *Eschscholtzia* provides a rich array of gold and orange, and is generally well suited to the hottest and poorest soils. The Golden *Erysimum peroffskianum* is very fine, while among rich intense blue flowers *Eutoca viscida* must be given a place, and the *Phacelias* may well bear company. Of the last *P. tanacetifolia*, *P. congesta*, and *P. Parryi*, the latter being distinct, are all worthy of good culture. The Sunflowers of the dwarf class and the *Helichrysums* will be welcome in their way, and not less so the Rockets, Larkspurs, Lupines, Nasturtiums, the *Nemophilas*, the Shirley and other Poppies, Mignonette, Stocks, Sweet Sultans, and *Tagetes signata pumila*. Such are among the indispensable things that may be sown in the open garden border. E. J.

BOOKS.

The Book of the Apple.*—This little handbook is full of practical matter, condensed into readable form, and should find its way into the hands of every Apple grower, especially amateurs seeking sound practical information easy

to understand and free from technicalities. We observe one or two trifling details which we are not quite in accordance with; for example, in the planting of trees, instead of shaping the centre of the hole higher than the outsides of the hole, we prefer the opposite shape, *i.e.*, the shape of the hole to be that of a tea saucer, *viz.*, the centre lowest and the outer parts of the hole more shallow, so that when the roots are spread out horizontally the extremities of the roots slightly incline upwards and not downwards. The advantages are important. Fruitful roots are encouraged near to the surface, within reach of beneficial solar warmth, and the necessary nourishment from judicious surface mulchings, ensuring ripeness of wood and the perfect development and maturation of the embryo fruit buds. As applied to properly managed trees—we object to that misnomer root pruning, “root lifting” is a more correct and appropriate term—when a young tree “begins” to make gross unfruitful growths it becomes necessary for the cultivator to divert this really wasted power into fruitful channels by the careful process of root lifting, removing the earth and digging down after the deeply penetrating refractory roots, preserving and bringing them up, all intact as far as possible, and relaying them horizontally near to the surface in a newly-shaped tea saucer hole.

Such an operation thus carried out in the months of October or November would be certain to produce an abundance of fibrous or fruitful roots, and secure profitable results for years to come, whilst the cutting away of strong roots is apt to give so severe a check as to probably throw the tree thus operated upon into a state of chronic debility. Recipes are given by Dr. Roberts for the cookery of Apples, but the valuable dietetic properties of some varieties over others appear to be overlooked; for instance, the old Flanders Pippin when cooked contains a large percentage of its own sugar, or rather saccharine, as to be of special value to dyspeptics and others. W. CRUMP, V.M.H.

HARDY FRUITS IN SEASON.

THE BEST APPLES FOR COOKING.

THE Apple as an important item in the nation's food supply has been, I think, somewhat unduly over-shadowed by its popularity as a dessert fruit. Its great usefulness in this way has not received the recognition which the Apple is entitled to, looking at it from this point of view alone. That the supply of English-grown cooking Apples is totally inadequate to meet the supply everyone interested in fruit knows. Neither so far as I know is any well-organised plan or systematic effort on a large scale put forth by private or public bodies to improve the supply, or to anticipate the much larger demand which will be made on this fruit in the near future by our rapidly increasing population. Indifferent cooking Apples in the suburbs are sold at from 3d. to 5d. per lb., which works out for an ordinary bushel of 60lb. (charging them at 4d. per lb.) to 20s. per bushel. Surely at half this price they would return a handsome profit to the grower. The reason more are not grown cannot be that we have not suitable land in abundance, or that the art of growing them is not well understood, neither is it because we have not the best sorts in the world at our hands to grow. It seems to be one of those neglected home industries which it is nobody's business to take in hand and organise on a large scale on commercial lines, the same as is done in America and some of our colonies.

The season is rather far advanced for planting, still, to those who are anxious to make a small start, and whose land is ready and in proper



APPLE NEWTON WONDER. (The fruit photographed was 3½ inches high and 3½ inches in diameter.)

* "The Book of the Apple." By H. H. Thomas. With Notes on Cider-making, &c., by Dr. Roberts. Lane. Price 2s. 6d.

condition, planting may be successfully undertaken until late in March, although unquestionably autumn planting is much to be preferred. Amongst the many varieties now in season are the following :

NEWTON WONDER.

It is difficult to speak in too high terms of this grand new Apple. When it is better known I venture to say that no garden in the kingdom of any note will be without it. It is of the largest size, and of handsome appearance and colour. It is said to be a cross between Blenheim Orange and Wellington, and is larger and handsomer than the former, its keeping and cooking qualities being equal to the latter. The tree is a strong and sturdy grower, with large leathery dark leaves. It is a consistent and heavy bearer either in the garden or the orchard. I anticipate a great future for it, especially as a market fruit. It has received the first-class certificate of the Royal Horticultural Society. Its season is from January to early May. As *THE GARDEN* has a large circulation in America and Canada I predict it will not be long before the great merits of this variety will be well known and appreciated by the fruit growers of both countries, and the result in consequence in due course will be evident by enormous supplies of this variety being imported from these countries to the detriment of the half-hearted grower in Britain, but to the advantage of the consumer by the consequent reduction in price of certainly one of the best late culinary Apples in existence at the present time.

GOLDEN NOBLE.

A well-known cooking Apple of great merit. It is of beautiful shape and outline, and, as its name indicates, is of a pure golden colour and large size. Its best season is from November to Christmas; still, I have some specimens before me in excellent condition at this date (March 4). It is a prolific and certain bearer, and much esteemed as a good market sort.

OWEN THOMAS.

CORRESPONDENCE.

(The Editors are not responsible for the opinions expressed by their correspondents.)

AGAPANTHUS UMBELLATUS ALBUS.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—When I ask advice on treatment of plants with which I have been unsuccessful—and I never *ask* advice unless I mean to *take* it—I often find myself in the position of the old man in Aesop's fable of "The old man, his son, and his ass," as it generally results in a complete change of treatment with the advent of each new adviser. In the present case I am sincerely grateful for the kind advice given me by you and your three correspondents on the subject of the *Agapanthus umbellatus albus*, but it would have been even more valuable, if that is possible, had the information not been irreconcilably contradictory, and the pieces of advice diametrically opposite the one to the other.

Information.—Mr. Fitzherbert says its leaves . . . die naturally in the winter. Mr. Allen: It is *not* deciduous. (N.B.—With me it is very much deciduous both indoors and out.)

Past experience.—Mr. Arnold: First, I brought them to rest at the end of summer; second, I treated them to a few thorough soakings during the winter. (N.B.—Neither treatment brought about the desired effect.)



APPLE GOLDEN NOBLE. (The fruit photographed was 2½ inches high and 3½ inches in diameter)

Mr. Fitzherbert always found it flower well. Mr. Allen has found it an alternate bloomer. (N.B.—With me it has never bloomed at all.)

Present successful treatment.—Mr. Arnold took them out of the ground and threw them under a close stage near hot water pipes where it was impossible for water to reach them the whole winter. Mr. Fitzherbert keeps them in open ground the whole year in light porous soil fully exposed to the winter rains, which in South Devon are usually heavy. Mr. Allen keeps them in a greenhouse from which frost is excluded and keeps them just moist and thinks that drying off would be fatal. (N.B.—I have done all three. Result: Good foliage but no flower.)

Now, sir, it often falls to my lot in the county police court to listen to very conflicting evidence, especially when two old women, being neighbours, take out cross summonses against each other for assault, but it is rarely my lot to come across more conflicting evidence than the above, although the veracity of my advisers, if not on oath, is nevertheless above suspicion.

Are there *two* species or varieties of *A. albus* as Mr. Fitzherbert suggests? Is one only a variety of the blue *A. umbellatus* and the other a distinct species and deciduous? Is it possible to reconcile the opposite experience of these three correspondents? Is it possible that after all the *Agapanthus umbellatus albus* bears almost every treatment with equanimity, provided it likes the soil, and that my Bagshot sands, composed of white sand, gravel, and heather peat are the aggravating cause of mine not flowering? Yet if so, why should they fail under pot treatment with the accompaniment of leaf-mould and loam? Can you, Mr. Editor, suggest a solution?

Parkstone, Dorset.

H. R. DUGMORE.

[The white *Agapanthus* is deciduous, or only partially so, according to the amount of moisture and warmth it receives. The accommodating nature of the plant itself affords a "solution," in which respect it resembles many other garden plants. The only surprise is supplied by our correspondent in his failure to flower it.—Eds.]

THE BOTHY.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—Many young gardeners will, I am sure, be glad of the opportunity now afforded them by the

Editors of *THE GARDEN* to give their views and express their opinions concerning the bothy. But I am afraid a good many of their letters on that subject will have a tone of dissatisfaction and complaint running through them. I dare say there will be more "airing of grievances" than contented expressions, because from my own experience, and I have now had several years of bothy life, I have found that good and comfortable bothies are few and far between; indeed, some bothies are little better than hovels. In many cases it is doubtful if owners of establishments are aware of the state of that dwelling called the bothy, in which their young gardeners live. As a rule, we will put up with much discomfort and inconvenience rather than complain, but if one does complain it is more than probable that the head gardener will "pooh-pooh" their grievances, and then begin to explain how he, in his younger days, had to rough it. The young men then complain no more, but resolve to stay for a year, or perhaps two, striving to deserve a good character from their master.

Allow me to try to describe briefly a bothy I once lived in. It was situated on the bank of a large river, close by where the sea and river met. It was built of wood, and to all outward appearance was like a bungalow, suitable for anyone who wished to enjoy a few weeks there during the hottest summer weather. There was a wall 3 feet high in front as a protection from the waves, but when a strong gale blew from the east, as it did once or twice a year, the waves came over the wall and across the floor of the bothy, leaving a deposit of mud, which had to be removed by means of wheelbarrows. There was no fireplace—two badly-cracked stoves, which smoked terribly, served the purpose. Many other inconveniences there also were, which I need not detail here. The drinking water had to be carried from a spring about 300 yards away. I did not remain there many weeks. The bothy of the next garden I went to was rather better, although situated above a stable. To reach my room, which served both as a kitchen and bedroom, I was obliged to enter the stable and climb a ladder to a trap-door above.

I have also lived in one of those large, airy, comfortable bothies. It had every modern convenience save electric light, but that class of bothy, as a rule, has certain disadvantages, if one may



A HEDGE OF LAVATERA TRIMESTRIS (THE TREE MALLOW).

here use the term. The long working hours during the spring and summer months allow the young gardener to have practically no leisure. There are certain unwritten laws in the workaday life of the young gardener which compel those who wish to get on to work a great deal of overtime without payment. He does not care to complain, knowing that his bothy life is comfortable. Under these conditions, which obtain in most gardens, it is impossible for one to become a member of a cricket club or to join any athletic association, as most young men would like to.

Berks.

G. C. J.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—The thanks of the young gardeners of Britain are due to the editors of THE GARDEN for opening their columns to the friendly discussion of this subject. The bothy and its environments, whether of an elevating or of a demoralising character, exercise a potent influence on the after life of the young gardener, affecting him as it does at a time when he is most susceptible to good or evil influences.

To many of your readers the experience of your correspondent "S. P." given so graphically in your issue of the 22nd ult., will come as an incredible and certainly a painful surprise. That the case he relates is by no means an isolated one I can well believe, and, moreover, can attest to in my own experience, which, however, is now of remote date.

As a youth I left a delightful garden situated among the mountains of my home, where not only every department of the garden was well looked after and cared for, but where the bothies were the special care of the proprietor, and where an experienced woman was engaged to look after the cleanliness and comforts of the men. From thence I was transferred by the agency of a nurseryman in the usual way to a garden in the Midlands of England for further improvement and experience in gardening. Whether I obtained much of the former or not I will not pretend to say; of the latter I certainly had an "eye-opener" as to bothy accommodation and comforts.

My first introduction to the bothy (which was situated at the extreme end of a long row of sheds abutting against the vinery walls, and, as usual, having a north aspect) was through a stoke-hole centrally situated in these sheds. Before I could

reach the bothy I had to grope through a Mushroom house, a tool place, and another shed, and, although it was broad daylight at the time, a candle had to be provided to illumine the way before my new home could be reached. To talk of a horse-stall or a dog-kennel in a respectable establishment as compared to the hovel into which I was introduced would be an insult to the former. A corner room not large enough to swing a cat in, with a low lean-to roof, one small window in the end wall, a miserable bed with a conglomeration of clothes—the sheets as black as the black coverlet, a sink in one corner, in another saucepans and a few other cooking utensils, as well as a mixed collection of cracked and broken earthenware. A couple of benches, a fireplace, and a table completed the outfit of this begrimed, cramped, and horrible place. This was the only accommodation provided for two of us, in which we had to do our own cooking, cleaning, and bed making. A woman had not darkened the door of that room for years.

I will not pain your readers by dwelling longer on this sordid scene. A great improvement has, however, been effected in this way of late years, the lead having been given by many of our nobility, and notably so by their Majesties the King and Queen at Sandringham.

There is always a danger of leaping from one extreme to another in considering and deciding on a remedy for such a state of affairs as I have described. For my part, remembering as we must the humble homes from which the ranks of the garden army have been and are being recruited, and also the comparatively humble homes they are destined to occupy in service during their future lives, I think it would be a mistake to surround them with too many luxuries and fancy comforts; the influence of which would certainly tend more to indolence than to industry, self-denial, and study. Let their home be situated in a bright and sunny situation, let each one if possible have a bedroom to himself, a good-sized sitting and reading-room combined, with a good collection of gardening books and journals, a comfortable room in which to have their meals, a bathroom, lavatory, &c., a good kitchen, and a useful, clean, and motherly woman who can do plain cooking, who will keep their homes clean and tidy; she should enter on her duties at seven in the morning, clean up, cook, and lay dinner, wash up, clear dinner things away, lay tea ready, at the end of

which time her day's work should be completed: let the young fellows clear away and wash the tea things themselves, and also lay their own supper in turns, and clear away, but not wash up unless they like. The foreman gardener should have a private room to himself, as, being in authority over his subordinates, it is not well for him to be always in contact with them. The foreman should be held responsible for the way in which the woman carries out her duties, as well as to see that proper order and decency are observed by the men. As regards recreation, a cricket pitch in summer is much enjoyed, and in winter, if far away from a town and from opportunities of study and improvement, the provision of a teacher one evening a week to give lessons in drawing, chemistry, botany, land surveying, or such other kindred subjects likely to be of service to them in after life is a kindly boon fraught with great possibilities in the future life of the young gardener.

EXPERIENTIA DOCEAT.

STEWING PEARS.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—Mr. Owen Thomas in his interesting list (THE GARDEN, February 15) omits two excellent varieties. These two varieties deserve much attention, one for earliest supplies and a new late one, little known but a valuable introduction. The early variety is

Gilgil, which in the northern part of the county is called Giles o' Giles, one of the earliest stewing Pears grown, being in season in October and November. The later one is the Winter Orange, a variety recently given an award by the Royal Horticultural Society. It was sent out a few seasons ago by Mr. Notcutt. It is a valuable addition to our late Pears, not unlike Verulam in appearance, but later, sweeter, and not at all bad for dessert in March and April; it succeeds well in bush form, the fruits being large and very handsome.

G. WYTHES.

AGAPANTHUS UMBELLATUS ALBUS.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—The correspondence that has appeared seems to point to there being two forms under one name. I give both the blue and white the same treatment during summer, viz., stand them outdoors and keep well supplied with water, but whereas the blue form keeps perfectly green and remains so all through the winter, the white one will die off, that is, the leaves turn yellow and die right down. Then I take it in and keep it dry until spring. I am certain, from its different appearance and behaviour, that it is not a mere variety of the blue form, but a distinct species altogether. If there is, as there appears to be, a white variety of the blue form, one would expect it to behave as Mr. Allen says it does with him—keep green through the winter. It would be interesting to compare the forms and note the difference when in full growth and flower. I should say mine is the white form of A. Mooreanus.

Woodside Park, N.

T. J. WEAVER.

THE TREE MALLOW.

AMONGST the taller annual flowers this is one of the most beautiful. The accompanying illustration represents a hedge of it in full beauty, smothered with those big pure rose-coloured flowers that give colour and beauty to the garden through the summer months and far into the autumn. It is a noble annual in every way, bold and vigorous in growth, making a beautiful rounded bush laden with flowers. The most telling variety is splendens, and there is a white variety named alba. A mixture of the two is delightful, though some may

prefer each form to show its individual beauty. It is simply necessary to sow seed in spring and to thin out unsparingly. The Tree Mallow is easily ruined by overcrowding the seedlings.

THE SIBERIAN CRAB.

PYRUS MALUS BACCATA.

THIS is a beautiful tree, as the accompanying illustration of one of the specimens at Kew reveals. It is shapely, and in spring smothered with white flowers, which give place in autumn to ruddy fruits. No better lawn tree exists, and such specimens as the one illustrated are a delight the whole year.

GARDENING OF THE WEEK.

INDOOR GARDEN.

BEGONIA GLOIRE DE LORRAINE AND ITS VARIETIES

ARE the most desirable and charming of winter flowering Begonias. Plants that were slightly pruned, as previously recommended, may have the remaining portions of the old stem cut hard back and be placed in a stove temperature. Water them sparingly at first, but gradually increase the supply as the growth demands, keeping the plants syringed twice daily. Cuttings from the stems should not be used for propagating, as they never grow with the same vigour as those from the base of the old plant. This season I shook out and repotted half the old stools kept for stock. These are now making the most vigorous growth and will furnish the strongest and healthiest cuttings. When shoots can be obtained about 3 inches or 4 inches long they should be inserted singly in small pots filled with loam and leaf-mould in equal proportions, with plenty of silver sand, care being taken that the soil is made quite firm round the cuttings. Water and place them in a propagating frame with a bottom heat of about 80°, plunging the pots to the rim in cocoanut fibre and shading from sunshine. On receiving plants of the

TURNFORD HALL VARIETY

I inserted three or four dozen of the best leaves. These I dibbled in with about 1 inch of stem in the cocoanut fibre covering a stage where seedling Cyclamens are standing. Each leaf has rooted and is now making two growths; these I will insert when large enough, as they are equal to root cuttings. This variety is a splendid acquisition, a robust grower and profuse bloomer. The growths should never be pinched at any time. Should any of the plants be grown the second year they must be repotted and the old soil shaken from their roots, using a compost of fibrous loam three parts, leaf-mould one part, and a quantity of sand. Do not pot too firmly or the growth will be stunted. Syringe twice daily and afford a little shade on bright days until the plants have made fresh roots.

BOUVARDIAS

that were cut back are now starting into growth and producing shoots that will form cuttings. When about 2 inches long they should be placed in 5-inch pots in a mixture of loam, leaf-soil, and sand in equal parts, standing them in the propagating frame as advised for Begonias. *B. Humboldtii corymbiflora* and *B. jasmiflora* (sweet-scented) should be shaken out of the old soil and repotted, as they flower more freely the second year; by pinching at intervals I have had them in flower from June until Christmas.

AZALEAS.

When the flowers are over remove the seed vessels and thoroughly syringe the plants with a solution of Gishurst's

Compound or some other reliable insecticide in order to destroy thrips or red spider. Plants that are getting thin and shabby, if cut into shape, placed in warmth and kept thoroughly syringed, will soon start growing again. Large plants will thrive in the same pots for several years if weak liquid manure is given to them occasionally. Seeds of Celosias, Cockscorns, and *Campanula pyramidalis* may be sown in pans filled with light sandy soil.

JOHN FLEMING.

Wexham Park Gardens, Slough.

KITCHEN GARDEN.

UNQUESTIONABLY March is the most important month in the whole year to the kitchen gardener, and much depends on the care and management afforded the vegetables at this season as to the ultimate success of the various crops.

ARREARS OF WORK.

If from any cause work which should have been accomplished last month has been delayed, do it at once, whether it relates to the preparation of the ground or nursing on the early crops. My advice is never put off till to-morrow what can and should be done to-day, if possible.

THE HERB BORDER.

Every garden should contain a well-grown and arranged herb border. A narrow strip facing west is the most suitable, and so arrange it that the taller kinds are together at one end and likewise the perennials and annuals. To be successful in their culture, replant about every third year; but if the ground is well replenished with manure and thoroughly trenched, the same spot may be utilised for many years; the work can safely be done now.

Mint is the herb most in demand. Though it will in many gardens last a number of years without being disturbed if a good surface dressing of well decayed fine leaf soil and horse manure is applied, it will succeed much better when transplanted every third or fourth year, but the roots should never become dry. The young tops, if taken off just as they are pushing up, will strike readily either under a hand-light or in a cold frame, keeping it close for a few days.

Lemon Thyme.—In many places this is not at all satisfactory, but it is often much in request. It revels in a well-drained, porous soil, and will cause

little trouble if a good dressing of road sand is given it annually; it will root freely into this.

Tarragon does best when taken up and divided annually.

Pot Marjoram thrives in almost any soil, but requires dividing to keep it within bounds.

Winter Savory often suffers severely during winter, and to maintain a supply it is well to sow a small quantity of seed about every second spring and transplant in rows.

Chives are much better divided annually.

Balm may be raised either from cuttings in spring or autumn or by sowing seed.

Chervil should be sown at intervals during early spring, summer, and autumn to secure a regular supply, often much prized for salads.

Sorrel.—The large-leaved variety is now much in demand in many establishments. This pays for good cultivation: it enjoys a deeply-tilled and enriched soil and plenty of room. Sow in shallow drills 1 foot apart and thin to 6 inches between the plants. It is best sown during spring or summer for supplies the following year, but if sown early and well treated good pickings may be made the same autumn.

GLOBE ARTICHOKE

which have been well protected should be relieved of their material in mild weather, replacing it at night when frost is certain, so that no undue forcing of the growth is made. Suckers which were potted up in autumn and wintered in cold frames should be hardened off gradually by plunging them under a south wall preparatory to planting them out early in April.

POTATOES

may be planted in small quantities in warm, sheltered parts of the garden, as many as can be protected thoroughly when the growth is above ground, but it will be far better to wait another fortnight.

E. BECKETT.

Aldenham House Gardens, Elstree, Herts.

FRUIT GARDEN.

STRAWBERRIES.

PLANTATIONS of these cannot be profitably retained after the second year, the very best fruit is yielded by skillfully managed plants the first season after being planted, whilst it is also the earliest to ripen. An opportunity



THE SIBERIAN CRAB (*PYRUS MALUS BACCATA*).

when the soil is sufficiently dry should now be taken to clear the soil of weeds and the plants of useless foliage, then make the plants firm if they were loosened by frost. Stir the surface soil and top-dress with suitable fertilisers, such as decayed manure, charred garden refuse, enriched with soot—provided a dressing of bone-meal, kainit, or something similar was not afforded in the autumn—or a quick acting artificial compound. Liquid manures from the farmyard or stables are valuable for the Strawberry, and may be applied at the present time. We depend chiefly upon such manures as stimulants for this fruit by giving periodical copious supplies of them both during the autumn and spring months. If not already done seeds of

ALPINE STRAWBERRIES

should be now sown in carefully prepared pans of fine soil placed in a warm temperature. Harden the plants once they are large enough to handle, prick them out in a cool frame, and subsequently plant them about 15 inches apart in permanent quarters. Plants raised thus are much more satisfactory than are those obtained from runners.

PROTECTING BLOSSOMS.

Except in very favourable situations it is not safe to risk leaving the blossoms of Apricots, Nectarines, and Peaches without protection, and under many conditions it is necessary to protect those even of Pears, Plums, Early Strawberries, &c., from frost. The first-named, however, will need the first attention, and where movable copings of any description are employed (and these it may be remarked are admirable appliances, in that they keep the flowers dry, and consequently less likely to be damaged by frost) they should be fixed in position as soon as the blossoms begin to open. Nevertheless, in low lying situations these are not entirely efficient protectors. Frigi Domo, woollen, or fish nettings should be stretched from them by means of rollers or otherwise to within a foot or so of the soil, and kept, by the aid of laths or some other means, clear of the trees. Remove these by day if they are made of close material, otherwise air and light will be excluded to an injurious degree, and for this reason alone loose textured material is preferable. Substitutes for the above in the form of branches of evergreen trees or shrubs are sometimes recommended, but it is practically impossible to make them secure because of the wind.

GRAFTING.

Gardeners gain nothing by raising their own trees, and may profitably leave this in the hands of nurserymen; they, however, sometimes find it desirable to re-graft inferior kinds of Apples, Pears, &c., with approved varieties, and this, provided the trees are young and in other respects satisfactory, may often be done with advantage, although it is not advisable in this way to attempt the renovation of such trees as are declining in vigour; far better is it to grub them up, properly prepare the soil, and plant young trees. The proper time for grafting is when the buds begin to expand and the sap is in motion. Whatever mode of grafting is adopted it should be quickly done and the air be completely excluded from the union.

T. COOMBER.

The Hendre Gardens, Monmouth.

THE FLOWER GARDEN.

SWEET PEAS.

It is now a good time to sow these beautiful and deservedly popular flowers. I do not intend to attempt an enumeration of the best varieties in this short note, but I would advise the cultivator to purchase few varieties, and those of the very best and most distinct colouring. I prefer growing my seeds singly in 2½-inch pots, placing the pots in boxes to facilitate moving them about. If germinated in a little heat they can be immediately removed to cold frames, and before the plants are anything like root-bound or drawn they are planted out in the ground previously prepared for them; 4 inches to 6 inches apart in single line is quite near enough to plant them. In doing this they should be put well into the soil, covering the stem and pressing with the feet all round to

make them perfectly firm. When 3 inches or 4 inches high they are supported with stakes in the manner preferred by the cultivator. By removing the newly formed seed pods continually, and at the same time giving plenty of water during dry weather, the flowering period of the Sweet Pea is much extended. The advantage of

SOWING IN POTS

is that the plants being raised in frames are to a great extent exempt from the attacks of birds and slugs, and a more satisfactory growth and an absence of gaps in the border are obtained with a minimum of seeds. In a garden devoted exclusively to the Sweet Pea I have some varieties growing in straight rows of 8 feet to 10 feet in length with grass paths around them allowing at least 6 feet between the rows. Each row is devoted exclusively to one variety. I have also circular beds about 4 feet through, cut out in the turf, filled with clumps which are most effective both here and in the herbaceous borders.

PHLOX DRUMMONDII,

Scabious, Antirrhinums, ten week Stocks, and Asters should now be sown in cold frames. The best plan is to prepare beds of light soil 4 inches or 5 inches deep in frames, make firm, and then sow lightly in rows 1 inch apart. At one time I used to make these frames on hot-beds of some fermenting material, but I found the results not nearly so satisfactory as when only ordinary cold frames are used.

HUGH A. PETTIGREW.

Castle Gardens, St. Fagans.

MISCELLANEOUS.

WINDOW GARDENING.

IT may not be inopportune at this time of year to call attention to an aspect of gardening that is in danger of being greatly neglected, if, indeed, not lost sight of altogether. I refer to that denoted by the heading of these notes. The more elaborate forms of gardening now occupy so much attention that this minor, although to many an important phase, is overlooked. To those debarred by lack of space from arranging and planting those elaborate and often remarkably beautiful borders of herbaceous perennials and annuals, window gardening offers many attractions. It does not, by reason of the restricted space at command, lend itself to the production of those gorgeous and varied effects that the extensive flower border does, yet those with limited time for gardening will find in window gardening much to interest, please, and instruct.

The window gardener, equally with the possessor of extensive flower borders, may enjoy the early spring flowers, and in almost as great variety as his more fortunate neighbour. Bulbous plants will grow equally well in well-drained boxes filled with soil that is fairly good as in the open border. They may, indeed, grow better, for window boxes are invariably sheltered to a great extent, and bulbs in the border have sometimes much to contend with—insufficient drainage, insect enemies, inclement weather, to which they are fully exposed, &c. The boxes should be prepared early, say, in September, and the bulbs planted towards the end of that month. Such as Crocuses, Snowdrops, Winter Aconite, Scillas, Anemones, and Irises are best placed near the edges, for they are dwarf growing. Tulips and Hyacinths cannot be dispensed with for this purpose, but do not plant them in lines. Jonquils and Daffodils also must be made use of.

One should endeavour to keep up a succession of flowers, always have something or other to look forward to, that is one of the great secrets of the engrossing nature of gardening. It is full of surprises, and one is kept on the tip-toe of expectation practically the whole year round. A few spring flowers, such as Aubrietias, Myosotis, Primroses, and Alyssum should be made use of, for they flower with the Tulips and Hyacinths, and take away much of the stiffness and hardness that

with some persons bring these two bulbous plants into disfavour. When appearing through a carpet of Aubrietia, Alyssum, or Forget-me-not the effect is greatly enhanced.

The wealth of material to choose from for embellishing the window box in summer is unbounded, almost bewildering, yet when I say that generally speaking three plants only are made use of, everyone will know to which I refer—they are Ivy-leaved and zonal Pelargoniums, Marguerites, with often an edging of Lobelia. That they are extremely pretty and particularly effective is quite true, but why endure the monotony of having all your window boxes filled with these three or four plants when you may get equally good effects with so many others. How many of your readers have tried the culture of Carnations in window boxes? They succeed admirably well, flowering very freely if they are given stimulants occasionally. To mention but a few of the dwarf-growing herbaceous plants, one could with great advantage use Calceolarias, miniature Sunflowers, some of the Liliums, Heucheras, Polemoniums, Geums, Michaelmas Daisies, Spanish Irises, &c., while of annuals one might have Linums, Mignonette, Iceland Poppies, Alyssum, Anthemis, Calliopsis, Candytuft, Eschscholtzia, Larkspur Malope, Nemophila, Virginian Stock, and a host of others. Verbena Ellen Willmott is a beautiful flower, and might with advantage be made use of, and Violas also.

My plan, in order to cause as little labour as possible, is to so arrange the plants in the box that they may need little disturbance. The dwarf-growing bulbs planted around the edging may remain, for they can easily be covered with annuals. Put the strongest growing herbaceous plants in the centre of the box when the bulbs are planted. They will commence to grow as the bulbs die down; the spaces between the former can be filled with annuals. It is advisable to sow these in pots and plant the seedlings out afterwards rather than to sow them directly in the boxes. Those who care to have evergreens may plant a few small conifers, Aucubas, Box, &c., leaving plenty of room for flowering plants between.

A. P. H.

NURSERY GARDENS.

MESSRS WEBB & SONS, WORDSLEY, STOURBRIDGE.

PRIMULAS, Cyclamens, Calceolarias, Cinerarias, Gloxinias, and Begonias during spring and early summer make a brave show in the several ranges of glass houses devoted to their culture for the production of seed in the establishment of Messrs. Webb and Sons, Wordsley, Stourbridge. Visitors to the Temple show of the Royal Horticultural Society and the principal provincial exhibitions will remember to often have seen the floral displays arranged by Messrs. Webb, and it is by reason of the quantities of plants grown in the houses at Wordsley that these are made possible.

The first of the houses that one enters in Messrs. Webb's nursery is devoted to herbaceous Calceolarias, and their present appearance augurs well for the flowering season in May. Many hundreds of these are grown, and chiefly for the production of seed. The second glass house is filled with Cinerarias of Webb's strain, a strain that is known far and wide for its excellence. Undoubtedly the chief reason of the popularity of the Cineraria is that its flowers range through such wonderful shades of colour, and these are splendidly shown in Messrs. Webb's collection. Even at this early season the plants are making a good display, while the successional batches will provide flowers yet for weeks to come.

In the third range of houses we see Primulas in great variety, and notice amongst them some kinds raised by Messrs. Webb, notably Modesty, Purity, Rosy Morn, Eclipse, and a seedling yet unnamed, in colour a carmine-rose. A new pure white with Fern-leaved foliage undoubtedly has a

future. Gloxinias fill the house that next we reach. Many of these are now in an early stage of growth, while thousands are still resting. The variety New Stanley sent out by Messrs. Webb was noticeable in large numbers.

Cyclamens, both of the giganteum type and Webb's Perfection strain, are accommodated in yet another structure, a portion of which, devoted to the new variety Webb's Mont Blanc, is shown in the accompanying illustration. Webb's Perfection strain of Cyclamen has the valuable property of flowering very freely. In colour the blooms vary through carmine-crimson and ruby to pure white. So great is the demand for Gloxinias and also for Begonia Gloire de Lorraine that it was found necessary to build another house for their cultivation, this being completed last year. The numerous pits and frames near by are devoted to a great extent to Carnations and tuberous-rooted Begonias.

No less interesting than the flowers is a brief visit to Messrs. Webb's seed warehouses to see the preparations for the farm seed trade and the vegetable and flower seed departments, where all were busily engaged.

SOCIETIES.

BRISTOL GARDENERS' ASSOCIATION. LECTURE ON "VIOLETS."

THE association of the Bristol and District Gardeners, under the chairmanship of Mr. Binfield, held a record meeting at St. John's Rooms, on Thursday evening, the 27th ult., when Mr. J. C. House, of Westbury-on-Trym, delivered his lecture on the Violet; it proved to be one of the most enjoyable evenings this society has ever held. For this lecture the Bristol amateurs were invited to attend, and received a cordial welcome from their professional brothers, and it need hardly be said the lecture given by Mr. House was worthy of the occasion. That Mr. House has made a special study of our Sweet Violet cannot be denied, and it was with manifest pleasure that such a goodly number availed themselves of the opportunity of listening to this most practical lecture. The Violet, Mr. House remarked, was deservedly one of the popular flowers of the age, not only for its delicious perfume, but also because it comes into bloom during the dulllest time of the year. Many people, the lecturer remarked, were under the impression that there was a deep secret concerning the cultivation of this gem of the garden, which he admitted, but which he said was that of attention to every detail and in doing everything needful well. A clear atmosphere, suitable soil (which Mr. House described), and a moist position were the essential conditions, and providing all these were complied with no one need hesitate to grow the Violet, which at all times was so much appreciated. He recommended propagation by runners put in during the autumn in sandy soil, covered with a frame, partly shaded during the first few days, and if possible facing south. Plant the roots out about the third week of April, making the soil firm round them, and keep them well watered during the summer months. The best varieties were La France, Princess of Wales, California, and Marie Louise. The best time for gathering the flowers was in the early morning or late in the evening. The lecturer also described several of the insect pests and diseases which the Violet is subject to, also means for prevention and eradication. A good discussion followed, and Mr. House was asked several questions, to which he carefully replied. On the motion of Mr. Meehan, president of the Amateur Association, seconded by Mr. Groves, secretary of the Gardeners' Association, a hearty vote of thanks was accorded to Mr. House for his most able and interesting lecture. Prizes for two gentlemen's buttonholes and a ladies' spray were awarded: First, Mr. Arthur Baker (gardener, Mr. Orchard); second, Mr. J. C. Godwin (gardener, Mr. McCulloch), the prizes being given by Mr. Jones and Mr. Winslade. Certificates of merit went to Mr. Gilbert Howes (gardener, Mr. White), for *Platyclinis glumacea*; Mr. E. B. James (gardener, Mr. Clarke), for two Cyclamens; Mr. C. Bruce Coles (gardener, Mr. Lee), for *Dendrobium nobile*; Lady Cane (gardener, Mr. Poole), for a collection of cut specimens of evergreen shrubs and conifers, and to Messrs. Garaway and Co., for a new double-flowering Peach.

WOOLTON GARDENERS' SOCIETY.

THE concluding meeting of this winter's series of the above was held on Thursday, the 6th inst., at the Mechanics' Institute, Mr. G. Haigh occupying the chair. The subject for consideration was "Plant Life," and was introduced by Mr. J. Benson, of Bebington, in a very able manner, commencing with the seed. The various details of the structure of the plant were fully described, with the functions appertaining to the root, stem, buds, leaves, and flowers. With

the various requirements hints were given how to help so that the highest results would be derived. The subject was one that was strongly recommended to the younger members of the society, for to have a sound knowledge of the structure and component parts of the plant was greatly in favour of more successful cultivation. As usual, a capital discussion followed the admirable lecture, in which Messrs. R. Todd, John Stoney, T. Carling, Joseph Stoney, H. Skinner, and R. G. Waterman took part. In reply to a cordial vote of thanks, the lecturer admitted that he had some misgivings in submitting his paper to a society which had a library of 150 volumes; this was a matter that should be highly prized by gardeners in the district. A vote of thanks to the chairman concluded the proceedings.

NATIONAL CARNATION AND PICOTEE SOCIETY. (SOUTHERN SECTION.)

ANNUAL REPORT FOR 1901.

WE make the following extracts:—"Your committee have much pleasure in submitting the twenty-fifth annual report, and in doing so congratulate the members upon the satisfactory position of the society. It will be within the recollection of members that the show for the current year was held under very unfavourable circumstances. The great heat experienced for some time previous, and on the day of the show, very materially affected the flowers, bringing them into bloom before proper development had taken place, with the usual result that many blooms collapsed in the course of preparation for the exhibition tables. However, in spite of these difficulties exhibitors did their best and succeeded in making the exhibition a very successful one. New flowers were not so much in evidence as on many former occasions.

"Your committee desire to draw the attention of members to the fact that the exhibition for 1902 will take place, under the auspices of the Royal Horticultural Society, on Tuesday, July 22, 1902, in the Drill Hall of the London Scottish Volunteers, James Street, Victoria Street, Westminster. The council of the Royal Horticultural Society contribute £10 towards the prize fund and free passes to the members. For the past four years the exhibitions have taken place at the Crystal Palace, Sydenham, the Crystal Palace Company very generously contributing each year £50 to the prize fund. This liberal donation they are unable to continue, but most kindly offered twenty guineas. However, considering the difficulties experienced by members in getting to the Crystal Palace, your committee decided to accept the offer of the Royal Horticultural Society.

"Your committee desire to call the attention of members to the report of the president of the society upon the result of the experiments so ably carried out by him in his gardens at Hayes, Kent. These experiments must have entailed very considerable personal labour, and the care and attention bestowed upon it by the president deserve the warmest thanks of every member of the society. These reports are very valuable and of great assistance to the members. To Mr. H. H. Cousins, late of the Wye Agricultural College, who very kindly arranged the course of these experiments, your committee offer their best thanks. Your committee have deemed it necessary to somewhat curtail the number of prizes offered in the schedule for 1902.

This was rendered necessary by the loss of the £50 from the Crystal Palace Company and more members than usual leaving the society during the past year.

"Your committee would earnestly call upon members of the society to recognise the onerous duties of the hon. treasurer, and to lighten them as far as it lies in their power, by replying promptly to Mr. Henwood's application for subscriptions to the society when due, if only by an intimation of their desire to resign membership."

UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.

THE annual general meeting of this society was held on Monday evening last at the Caledonian Hotel, Adelphi Terrace, Strand. Mr. Herbert J. Cutbush presided over an attendance of thirty-one. The minutes of the last general meeting having been read and confirmed, the secretary read the

REPORT FOR 1901.

"In presenting its report for the year ending January 13, 1902, the committee is gratified to be able to announce that the society is in a thoroughly sound position financially. The investments have increased materially during the year, and the number of members is far larger than on any previous occasion. At the meeting following the annual general meeting, the committee resolved to elect a chairman and vice-chairman of committee annually, instead of voting a member to the chair at each meeting. Putting this resolution into effect, the committee unanimously elected Mr. Charles H. Curtis as its first chairman, and Mr. Thomas Winter as its first vice-chairman. A new edition of the society's rules became necessary during the year, and has been published.

"For the fourth successive year eighty-three new members have been admitted to the society, a number that has not hitherto been exceeded. The committee hopes, however, that during the ensuing year members will do their utmost to place before the young gardeners of Great Britain and Ireland the many advantages and benefits of the society, and thereby secure a still larger increase of membership. It was the painful duty of the committee to refuse admission to two candidates at its last meeting of the year, as both were a few days over the age limit. During the year, twenty-four members have lapsed, and two have died, so that now the number of subscribing members is 904, an advance of fifty-three for the year. Subscriptions and arrears to benefit fund amounted to £1,440 12s. 10d., and the total disbursed as sick pay was £307 16s., a slight advance on the amount paid out in 1900, but met by deductions of ss. 4d. and 5s. 6d. respectively on the two scales. Only seventy-seven members received sick pay; but the average duration of illness was greater than in the previous year. The total balance standing to the account of the benefit fund is now £14,764 0s. 1d.

"The benevolent fund has afforded assistance to eight members, the total amount paid out being £107 7s., an increase of £25 7s. on the sum paid in 1900, but not nearly so large an increase as was the amount paid out in 1900 (£52) upon the sum disbursed in 1899 (£35 5s. 6d.). The committee has had the whole subject of the benevolent fund under consideration, but at present it has no proposition to make to the members regarding it. From the convalescent fund the sum of £6 10s. has been paid, divided among five members. For donations to this fund the committee desire to thank both honorary and benefit members.



PERSIAN CYCLAMENS IN MESSRS. WEBB AND SONS' NURSERY

"On October 9 the society held its annual dinner at the Holborn Restaurant, when 105 members and friends attended. The chairman on this occasion was Peter Kay, Esq., V.M.H., who not only made an able president, but also liberally assisted the committee in carrying out the arrangements for this function. To Messrs. W. Cutbush and Son, J. Laing and Sons, H. Cannell and Sons, Wm. Thomson and Son, P. Kay, Riley Scott, Robinson, and others the thanks of the committee are due, and hereby tendered for their gifts of flowers and fruits. The committee has much pleasure in stating that Arthur W. Sutton, Esq., V.M.H., has kindly promised to preside at the annual dinner of 1902.

"The committee also wish to express their gratitude to the horticultural press for services so ably rendered the society in various ways during the year.

"In conclusion, the committee would urge each member to take a deeper active interest in the advancement of the society, and by the exertion of personal influence to secure new members, so that the record of the Coronation year may surpass that of all previous years, and the membership of the society be raised to at least one thousand."

The Chairman moved the adoption of the report and balance-sheet. In doing so he referred to the advantages of the society, which were more than those of any similar society in the kingdom, and enumerated them at some length. He would urge young men to join, and hoped all would try and obtain fresh members. There were only fifty honorary members of the society, a number the chairman thought ought to be increased; he would certainly do his best to bring this about.

Mr. J. F. Heal seconded the adoption, which was carried unanimously. Three thousand copies were circulated. Mr. Humphreys proposed that Messrs. Peerless, Barge, Taylor, and Stanbridge be re-elected members of committee. This was seconded by Mr. J. Hudson, who referred to the excellent average attendance, and carried unanimously.

A vote of thanks to Mr. J. Hudson, who has been treasurer of the society for twenty-one years, was proposed, seconded, and heartily supported by several speakers. Mr. Hudson, in replying, said he would much like to complete the twenty-five years' trusteeship, but thought then that someone else should take over the duties.

Mr. H. J. Cutbush proposed the re-election of Mr. Collins as secretary, and testified to the thorough manner in which he worked. Mr. Wheeler seconded this proposition, which was carried unanimously.

Mr. J. H. Dick proposed a vote of thanks to the trustees, Messrs. J. and G. Wheeler and Riley Scott; Mr. A. Hemsley seconded this motion, which all supported.

Mr. C. H. Curtis proposed a hearty vote of thanks to Mr. Cutbush for presiding.

ROYAL HORTICULTURAL SOCIETY.

THE exhibition of plants, flowers, and fruit at the Drill Hall on Tuesday last was a delightful one, but it could hardly have been held under more unfavourable conditions. A dense fog prevailed outside, which necessitated the hall being lighted to enable one to distinguish the flowers at all. Forced plants, hardy flowers in great variety, Cyclamens, Primulas, Orchids, and fruit were shown in quantity; in fact, the display was a representative one.

ORCHID COMMITTEE.

Present: Messrs. Harry J. Veitch (chairman), James O'Brien, de B. Crawshaw, H. M. Pollett, H. Ballantine, James Douglas, John Cypher, Frank A. Rehder, N. F. Binley, H. T. Pitt, W. H. Young, H. J. Chapman, F. W. Ashton, W. H. White, W. Boxall, Thos. Bond, W. Thompson, C. Wilson Potter, H. A. Tracy, H. Little, and J. G. Fowler.

Messrs. F. Sander and Sons, St. Albans, displayed a group of plants of Phaius, all of which were grown in Belgian leaf-mould, and a year ago were all small plants in 3-inch pots. Now they are well-developed specimens in 8-inch and 10-inch pots, each bearing a strong raceme of flowers—excellent testimony to this fresh compost. Besides the Phaius were Cymbidiums and several Lælio-Cattleyas. Silver Flora medal.

Messrs. Stanley, Ashton and Co., Southgate, N., exhibited a miscellaneous and interesting group of Orchids. In the centre was a splendid plant of Cymbidium lowianum, whilst those on either side of it included Cymbidium eburneo-lowianum var. inversum, Lælia harpophylla, Lycaste Skinneri alba, Odontoglossum triumphans, O. Rossi rubescens, O. Insleyi, Dendrobium Ainsworthi, Odisse variety, and O. Insleyi. Silver Flora medal.

Mr. James Cypher, Queen's Road, Cheltenham, showed an excellent lot of Dendrobiums, together with a few Cypripediums. Particularly fine were D. nobile majus, D. n. nobiliss, D. rubens magnifica, D. Ainsworthi, Cypher's variety, D. Euryalus Apollo album, D. nobile Fischeri, D. n. murrianum, &c. Silver Flora medal.

Frank A. Rehder, Esq., The Avenue, Gipsy Hill (gardener, Mr. R. Norris), displayed a small group of Dendrobiums, consisting of plants bearing a remarkable quantity of bloom. Silver Flora medal.

Messrs. James Veitch and Sons, Limited, Chelsea, exhibited several remarkably fine hybrids. One, Lælia digbyana purpurata King Edward VII., a remarkable flower, obtained a first-class certificate, and will be described elsewhere. Lælia digbyana purpurata, L.-C. Pallas, L.-C. Antimachus Ceneæ, Lælia-Cattleya Myra var., Cypripedium Euryades splendens, Dendrobium wiganianum were included in this exhibit. Silver Flora medal.

Sir Trevor Lawrence, Bart., Burford, Dorking (Orchid grower, Mr. White), exhibited several Dendrobiums, including finely-flowered plants of D. barbatulum, D. nobile elegans, D. melanodiscus Rainbow, D. n. ballianum, D. Rolfe, &c. Silver Flora medal.

F. Wellesley, Esq., Westfield Common, Woking (gardener, Mr. F. Gilbert), showed Lælio-Cattleya goettoiana Westfield var., Lælia joughiana rosea, &c.

Odontoglossum crispum Lindeni was shown by A. Warbentin, Esq., Dine House, Harlington.

Lælio-Cattleya lucasiana, a fine deeply-coloured flower,

was sent by Messrs. Hugh Low and Co., Bush Hill Park, Enfield. Cattleya labiata flammæa and Lælia tenebrosa were the parents.

Masdevallia minutia, exhibited by R. J. Measures, Esq., Cambridge Lodge, S.E. (gardener, Mr. H. J. Chapman), was given a hotoacal certificate.

Baron Schroeder, The Dell (gardener, Mr. H. Ballantine), sent Odontoglossum crispum truffautianum.

Dendrobium wiganianum Gattin Park var. was sent by Jeremiah Colman, Esq., Gattin Park, Reigate.

H. T. Pitt, Esq., Stamford Hill (gardener, Mr. F. W. Thurgood), showed Odontoglossum excellens Rosslyn var.

G. Singer, Esq., Goudon Court, Coventry (gardener, Mr. J. Collier), exhibited a small group of Orchids that included Cattleya Trianae alba Goudon Court var., Cattleya Trianae Theodora, Cypripedium Olivia, &c. Vote of thanks.

Cattleya Trianae rubra Goudon Court var. from G. Singer, Esq.; Odontoglossum Halli leucoglossum Rosslyn variety, from H. T. Pitt, Esq.; Dendrobium Aspasia var. superba and D. splendens var. Mrs. Haywood, from Mrs. Haywood, Woodhatch Lodge, Reigate (gardener, Mr. C. J. Salter), were also shown.

FRUIT COMMITTEE.

Present: Messrs. Joseph Cheal (chairman), W. Bates, S. Mortimer, A. Dean, H. J. Wright, E. Beckett, Wm. Fyfe, H. Markham, J. Willard, James H. Veitch, W. H. Divers, W. Poupard, M. Gleeson, and G. T. Miles.

Mr. W. Taylor, Osborn Nursery, Hampton, Middlesex, exhibited a small collection of Apples and Pears. The fruits were of good size, and very highly coloured. Annie Elizabeth, Bismarck, Blenheim Orange, Pears Uvedale St. Germain and Catillac were of the best. Silver Banksian medal.

Mr. Wm. Fyfe, Lockinge Park Gardens, Wantage, exhibited a collection of splendid Onions in six varieties—Aristocrat, Veitch's Main Crop, Ailsa Craig, Tankard, Cranston's Excelsior, and Opponent. Silver Banksian medal.

Mr. Ward, Shodan, Hereford, exhibited a fruit supposed to be a hybrid between an Apple and a Pear. In colour, taste, and appearance of the eye, and that part around the latter, it resembles an Apple, yet the general shape of the fruit and the shoots proclaim the Pear.

Dr. Broughton Addy, Pembury Court, Kent, sent a dish of Pears for name, but the committee were unable to identify the fruits.

Mr. W. H. Divers, Belvoir Castle Gardens, sent dishes of Pears Court Quene, Nec Plus Menris, and Apple Scarlet Nonpareil.

Mr. Wm. Fyfe, Lockinge Gardens, Berks, sent a dish of Apples for name; bright, clean, firm fruits, but no name was given.

W. Boyes, Esq., 30, Duffield Road, Derby, sent Apple Kirk Langley Pippin.

FLORAL COMMITTEE.

Present: Mr. W. Marshall (chairman), Messrs. George Nicholson, H. B. May, James Walker, R. Dean, J. W. Barr, G. Reuther, J. F. McCleod, Chas. E. Pearson, R. C. Notcutt, E. T. Cook, W. Howe, J. Fraser, Chas. Dixon, H. J. Cutbush, C. J. Salter, Charles Jeffries, J. A. Nix, Charles E. Shea, R. W. Wallace, W. P. Thomson, E. H. Jenkins, W. J. James, H. J. Jones, George Paul, and Harry Turner.

The groups of forced shrubs were worth going a long journey to see. The most striking was that from Messrs. William Paul and Son, Waltham Cross, and, composed of highly effective, well-flowered examples throughout, made a most striking display. The most conspicuous were the bush-grown as opposed to the standard, and, therefore, more restricted examples of the former, such as the double-flowered Almond, the double white and double crimson Peaches were beautiful in the extreme, the long rods so profusely laden with flowers rendered the plants quite ideal objects for decoration. Indeed, it is not easy to describe the exceeding beauty of these things so light and delicate in the softer touches of colour and so strikingly effective in the bolder self tones. Prunus triloba was very abundant, and not less so Pyrus myrobala rosea plena, which has deep pink flowers in profusion. The ever-welcome Forsythia suspensa, overtrailing other things, was good, and we were also charmed with the white Clematis indivisa lobata and Magnolia conspicua. Silver-gilt Flora medal.

Beside this was another beautiful group from Messrs. Cutbush and Sons, Highgate. Here, in addition to many things named in the first group, we noted Pyrus Malus Scheideckeri, a full pink flower, and many other things. The group was margined with the variegated Ophiopogon. Silver-gilt Banksian medal.

Yet another display came from Messrs. R. and G. Cutbush, Southgate, and here again were many Azalea mollis, handsome bushes nearly 3 feet across and loaded with flowers, the well known Viburnum Opulus, single and double Lilacs, Laburnum Vossii, and Kalmia latifolia full of buds and blossoms of a most exquisite kind, many Palms forming a background, and Acers and Sambucus racemosa plumosa aurea were grouped amongst the taller flowering plants to good effect. Silver Banksian medal.

Messrs. Hugh Low and Co., Enfield, filled one corner with giant Palms, forming a canopy to masses of the Rose Crimson Rambler, Genista, and other things; while in another position a large piece of tableting was filled with well grown Cyclamens of the Papilio group in colours, Acacia Drummondii, Boronia, Schizanthus wisetonensis, and Malmaison Carnations. Silver Flora medal.

Messrs. Veitch had an excellent collection of Imantophyllums, mostly seedling forms, and all of much merit and finely grown. Very beautiful was the somewhat new Loro-petalum chinense, a plant of shrubby growth, bearing profusely axillary clusters of white flowers, the segments distinctly numerous, about 1½ inches long, and quite linear.

Two Azaleas apparently of the amena type were named Carnatioa splendens and Illuminator, the last a large and showy kind. A nice group of Shortia galacifolia was also shown. In another direction a group of Cinerarias was of two kinds, Feltham Beauty and Ramosa; both are single, and have purple shaded flowers of different tones. Silver Flora medal.

An exhibit that attracted no little attention was composed of Rose Fortune's Yellow, arranged in a pyramidal setting on a frame or stand of 3 feet high or so. The beautiful colouring of this Rose was more intense than usual. The group was shown by Lady Wantage, Lockinge Park (gardener, Mr. Fyfe).

Messrs. J. Laing and Sons, Forest Hill, had a group of useful plants, such as Dracænas, Cyclamens, Pandanus, Azaleas, Anthuriums, well fruited Orange trees, the yellow Calla, and small plants of well-flowered Camellias. One of these, a single pure white kind, was noteworthy by reason of its purity and good petal.

F. A. Bevan, Esq., Trent Park, Barnet (gardener, Mr. H. Parr), had a display of seedling Amaryllis in a setting of Primula stellata, the former of the red shades and very showy. Near by was arranged a notable lot of Cyclamen, plants that were masterpieces of fine culture. The varieties consisted of pure white selfs, white with crimson base, pink in two shades, distinct from each other, and by no means least a remarkable flower of an intense yet dusky glow of crimson-lake, a wonderful shade. The plants were all large and old, some indeed four years, others seven years, and some more yet with flowers 2 inches long at least. Some of the plants were shown at the Birmingham Chrysanthemum show in November, and now they carry 80 or 100 blooms each, fully open and perfect in every way. The dark variety alluded to above had at least 150 flowers open, and there were many still to follow. The plants were in 7-inch pots, but had a spread of leafage to quite 18 inches diameter. These fine plants came from Colonel Rogers, Burgess Hill, Sussex (gardener, Mr. C. Murrell), and deservedly obtained a Silver Flora medal.

Messrs. Cannell and Sons, Swanley, had a large display of Cinerarias in great variety of colour and well grown. The flowers, too, in their several shades were highly meritorious and well defined. Cyclamens, also, of which there were some 100 fine plants, were in excellent condition. Silver Flora medal.

Messrs. Paul and Son, Old Nurseries, Cheshunt, had a charming display of white Camellias, mostly of the variety alba plena, the fine double Cherry J. H. Veitch, and many lots of Lachenalia, such as Intela, anrea chrysanthia, Nelsoni, and Little Beauty. Bronze Banksian medal.

Hardy plants were again numerous, though novelties were not abundant.

Messrs. Wallace and Co., Colchester, had many beautiful Irises, such as I. reticulata, I. histrioides, Krelagei, Danfordie, a pretty yellow kind, together with Leucogums, Eulbocodium vernum, Frutillaria aurea, white Siberian Scilla, and such Narcissi as Cernuus, Horsfieldi, and others. The plants were much admired. Silver Banksian medal.

Messrs. Barr and Son had beautiful masses of Saxifraga oppositifolia, S. apiculata, S. Boydii, quite a display of Narcissi, Cyclamens, and such good things as N. calathemia, N. triandrus pulchellus, &c. There were fine masses, too, of all the Hepaticas, these being shown in baskets 2 feet across. Iris orchioides and I. persica Hansknacti, a dusky looking flower, were also noteworthy. Beside these there were many bunches of forced Narcissus. The very rare Tulipa clusiana alba was also shown. Silver Flora medal.

Messrs. Cutbush also had baskets filled with Hepaticas in flower, pink, red, white, blue, and all very beautiful.

Messrs. Jackman and Sons, Woking, had a very pretty lot tastefully arranged, and including not a few choice Alpines. In these we noted a new Frutillaria, F. Zagria, a curious and distinct kind. Polygala chamaebuxus purpurea, Lithospermum canescens, golden-orange; Saxifraga Boydii alba, S. oppositifolia, Primula denticulata alba, P. verticillata, P. frondosa, Epigaea repens, some giant rosettes of Ramondia, and Cypripedium Calceolus. Silver Banksian medal.

Mr. John Waterer, Bagshot, Surrey, showed a group of medium size shrubs and conifers such as Retinosporas, Junipers, and a splendid group of Andromeda japonica in full bloom. Bronze Banksian medal.

Messrs. T. S. Ware, Limited, Feltham, had many fine masses of Hepatica and Saxifraga burseriana in baskets. Shortia galacifolia was very pleasing, and so too the Primulas in variety, and other spring flowers. Bronze Banksian medal.

A very distinct Frutillaria sp. was shown by Miss Willmott, and an Iris sp., which in all probability is a form of I. orchioides. The former plant is 2 feet high, and bears seven to ten greenish yellow flowers in a drooping umbel. By its vigour of growth it promises to make a good garden plant. We shall describe these later.

Violets were also shown in considerable number by Lady Ancaster, Normanton, Stamford.

Royal Horticultural Society.—A general meeting of the above society will be held at 3 p.m. on Friday, March 21, at the Drill Hall, London Scottish, Buckingham Gate, S.W., to receive from the council and, if approved, to adopt a report recommending a proposed site for a horticultural hall and offices. Fellows are requested to show their tickets at the door. None but Fellows should endeavour to attend this meeting.

National Rose Society.—At a committee meeting held in the rooms of the Horticultural Club, by permission, the schedule of the forthcoming show at the Temple Gardens was approved. Several new members were elected, including Viscountess Falmouth, the Hon. Mrs. Corbet, and Messrs. E. H. Dring, W. Poord-Kelsey, H. Graham, S. Patey, jun., H. G. Wood, G. Speight, and G. Egerton-Warburton. There was a large attendance.

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GREEN PAINT IN THE GARDEN LANDSCAPE.

A RECENT applicant for advice wrote in a tone of regret, that seemed to admit of no hope of bettering, about some green-painted posts in his garden "which are unsightly." Alas! it is only too often, indeed it is generally the rule, that articles that have to be painted in gardens are painted—what is simply called green, and are, in consequence, unsightly. Green paint, to the ordinary workman, means a hard, bright, crude colour, the harder and brighter the better. Such a colour is not only unpleasant in its own vulgar garishness, but is painfully unbecoming to any foliage that is brought near it. It may have a certain smartness on the body of a railway engine in connexion with bright brass or ironwork, and possibly the brightest green paint may please East End trippers on the seats and appurtenances of their holiday resorts, but it cannot fail to be offensive to people who have the least refinement of taste, and it must be of harmful colour effect in close connexion with vegetation.

Even in the very best places nothing is more frequent than to see the tubs containing magnificently grown Oranges, Oleanders, Palms, and other fine plants for terrace decoration disfigured by the worst possible hard green colour, the crudity of the green being made all the more painful and conspicuous by the hoops being painted black; and then perhaps the whole thing is varnished into a kind of aggressive vulgarity of smartness.

We venture to speak most strongly on this matter of green paint, and even to say that green paint of this class should never come into a garden at all. But we do not condemn it without offering a useful solution to the paint problem. We well know that the frequent painting of tubs, garden seats, and other appliances is necessary, and that the careful gardener takes a just pride in seeing that it is not neglected. It is only a question of choice of colour. If, instead of the Brunswick greens or other bright greens of the oilman's stock, the better choice were made, it would be immensely for the good of the garden landscape. A whole range of beautiful greens is made with chrome yellow No. 1 or pale chrome and black. Anyone who has not seen these two colours mixed up on the paint stone would hardly believe how good a green they make. It

is amply bright enough for any garden use, it keeps its colour better than the other, it gives the articles painted a look of refinement instead of vulgarity, and it accords most pleasantly with all foliage. Let any gardener who mixes his own paints try a mixture of paints "ground in oil" of one part black, two parts light chrome, and four parts white lead, suitably thinned, and he will have a very good colour for all garden work. As for tubs they look much better painted the same all over. Why the custom of painting ironwork black became established it would be hard to say.

In France and Italy the tubs are nearly always of a pleasant quiet colour; even when at their brightest the colour, instead of being crude and harsh as in England, has an element of refinement, approaching the colour called malachite green in paints which is very far away from the much brighter colour of the mineral substance malachite, and more like a low-toned or washed-out turquoise; but this class of colour, though quite admissible in extremely dressed work at home, is more generally suited to the sunnier southern lands.

CALOCHORTI AND THEIR CULTURE.

(Continued from Vol. LX., page 413.)

GROUP II.—STAR TULIPS.

A GROUP of ten species, mostly inhabitants of woodland, producing slender stems bearing erect, saucer-shaped flowers almost entirely covered on the inside with long silky hairs. They rarely exceed 6 inches in height, and are only suitable for planting on rockeries and other places where some attention can be readily given to them. A few are strong growers, but the majority are fragile-looking but very interesting little plants with flowers of wondrous structure and tints of colour. All flower in May and June with the *Cyclobothras*. The plants thrive better and the flowers appear to greater advantage if some mossy *Saxifrage* is planted as a carpet over the bulbs.

C. Benthani (Baker) is a delicate little plant producing four to five golden yellow flowers blotched with chocolate at the base of each petal. It flowers freely enough, but does not last many years under cultivation.

C. cœruleus (S. Wats) and its varieties are the earliest to flower of all *Calochorti*. The type plant bears pretty bluish, very hairy, saucer-shaped flowers on tiny stems a few inches high; each flower spans less than 1 inch.

C. major (Hort.) is a strong-growing form, and a better garden plant in many respects. It grows 6 inches high, and bears several flowers, each an inch across of a pale blue tint, the inside being covered with a multitude of

silky blue hairs which stand erect and project from the face of the petals.

C. roseus differs only in its red or rose-tinted petals.

C. collinus is a rare plant most resembling *C. cœruleus* in form, with solitary flat flowers each of a pale lavender tint, borne on stiffly erect stems a few inches high. The *C. uniflorus* of *Botanical Magazine*, t. 304, much resembles this plant.

C. elegans (Pursh) = *apiculatus* (Hort.), a comparatively well known plant, is of easy cultivation; each bulb produces six to eight flowers, each an inch across, coloured white, and clothed on the inside of the petals with long, glistening, silky yellow hairs; a very fascinating little plant indeed.

C. lilacinus (Kellogg), a strong grower, produces several stems from each bulb and fully a dozen large purplish flowers $1\frac{1}{2}$ inches across. It is of strong constitution, and makes a good rockery plant.

The foregoing Star Tulips, though of very dwarf stature compared with many *Calochorti*, are none the less interesting on that account; their beauty is only revealed by close inspection. They occupy a similar position in relation to other *Calochorti* to that enjoyed by the lesser *Narcissi* such as *cyclamineus*, *minimus*, and the varieties of *bulbocodium* in relation to the stronger growing *Narcissi*.

GROUP III.—GIANT STAR TULIPS.

A small group of large-flowered Star Tulips of very easy cultivation, of which the lovely *C. Purdyi*, now well known, is the best. It grows fully a foot in height, and bears six to eight white flowers covered with silky white hairs. Each flower spans $1\frac{1}{2}$ inches, and is of stout texture, opening very flat. The hairs stand out stiffly erect from the face of the petals, and fringe the edges in a delightful manner. The plant was deservedly awarded a first-class certificate by the Royal Horticultural Society in 1898.

C. Howelli is a similar plant with large creamy white flowers with a heavy fringe of golden yellow hairs proceeding from the lower half of each petal. It is a very rare species both in cultivation and in its native habitats.

C. Tolmei, a comparatively fine plant, bears several white flowers, tubular in outline, and entirely covered on the inside with purplish hairs. The three plants in this group thrive best in a cool, damp situation; they need not necessarily be lifted as they start into growth late in the season, and rest quietly through our winters. Their bulbs are usually stout, and they flower with the greatest profusion. They are derived from cold wet climates very similar to our own.

GROUP IV.—CALOCHORTUS VENUSTUS.

The many varieties of *C. venustus* are the most popular of all *Calochorti*. Their flowers vary in colour from pure white, through all shades of pink, yellow, deep red, and purple,

and their throats are wonderfully bearded, flushed, zoned, blotched and tigered with red, brown, crimson, and gold, either blended together or in sharp relief, in a manner no brush can portray or pen describe. Their outer petals are small and rolled, nevertheless prettily marked at the base, whilst the inner petals are very broad and perfectly shaped, giving the flowers that beauty and grace that have won the good opinions of all who cultivate them. If the extent of the garden will not admit of a bed being specially devoted to them they may be planted in colonies where the cultural conditions noted in the first few paragraphs can be provided.

C. venustus citrinus, a free-flowering plant, bearing fully twenty to thirty large lemon-yellow flowers, is a general favourite. It grows 18 inches high and branches freely. The flowers are wonderfully marked at the throat with rich chocolate blotches and delicate pencilling, and their shape is perfect. The plant was awarded a first-class certificate by the Royal Horticultural Society.

C. v. oculatus has large white flowers over 2 inches in length and span, the petals are blotched about the middle with a glowing black eye, which is surrounded by a zone of golden yellow. The entire base of the flower is delicately pencilled and shaded with chocolate, yellow, and black, blended together in many intermediate tints: a very beautiful form.

C. v. purpurascens resembles *oculatus* in size, shape, and markings, save that the outline of the flower is of a rich purple tint. It flowers later than most varieties of *C. venustus*.

C. v. robustus, a very strong-growing, vigorous plant of *oculatus* type was obtained from a wet, cold district, and proves to be exceptionally easy to grow. The flowers span 2½ inches, vary in colour from white to rosy pink, and are marked at the base with a blending of nearly all imaginable colours. It grows fully 2 feet high, and produces stiffly erect stems and large flowers of much substance, surpassed only by the variety *vesta* in this group.

C. v. roseus, a very elegant variety, coloured a faint shade of pink, marked with a distinct peacock-eye near the base of the petals, which are also elegantly mottled, striped, and zoned. A characteristic feature of this flower is the triangular rose-coloured blotch near the tip of each petal, a new and charming feature.

C. v. sulphureus, a selection from *C. v. roseus*, of a true sulphur-yellow colour, is marked with scarlet eyes at the base of each petal, surrounded by a zone of golden yellow and a groundwork of chocolate, with slight tints of scarlet showing in a few places.

C. v. vesta is a very strong growing selection, with white or rose-tinted flowers fully 4 inches across, and borne on long, wiry stems 2 feet high. The lower half of each petal is zoned with golden yellow and chocolate bands just below the usual peacock eye, whilst the base of the flower is coloured brown, pencilled and dotted with yellow. This selection is the finest so far obtained; the flowers are wonderfully marked, whilst the plants are robust: in fact, they are as strong as the majority of garden Tulips, and equally as hardy.

GROUP V.—THE ELDERADO STRAIN.

A group of exquisite forms of *C. venustus*, which appears to have followed in the footsteps of the Shirley Poppies, in that it has sported a number of colour forms to which the collective name of "Eldorado strain" has been given on account of the great richness and

variety of colour presented in the group. It is not possible to give an adequate description of this group, for the simple reason that the plants have not stopped sporting and new and more wondrous forms appear year after year.

They may be generally described as *C. venustus* sports ranging in colour through all shades of pink, rose, purple, and deep red, and marked with gold, scarlet, red, chocolate or black eyes, which are zoned with other brilliant colours as a contrast, the bases of the flowers are marked in every possible fashion, never glaringly, but in soft blends and artistic pencillings, never irregular or disproportionate, but in perfect order throughout. The flowers are freely borne on long, wiry stems of considerable stoutness, rendering them very valuable as cut flowers, whilst the plants grow with a minimum of attention.

One choice selection, which is, unfortunately, scarce, has a vivid gold blotch at the tip of each petal, and another at the base. This "Eldorado strain" received the Royal Horticultural Society's award of merit when shown by Messrs. Wallace of Colchester in 1896, about which time it was introduced.

(To be continued.)

NOTES OF THE WEEK.

Examination in horticulture.—The Royal Horticultural Society's annual examination in the principles and practice of horticulture will be held on Wednesday, April 23. Intending candidates are requested to send in their names to the secretary, Royal Horticultural Society, 117, Victoria Street, London, S.W., as early as possible. A stamped and directed envelope must be enclosed with all communications requiring a reply.

Coronation trees.—A correspondent writes: "As very few subjects can be planted in June, I advise planters to do so now. The dedication can follow in June, and the labels not be fixed to the tree or trees until that month."

Crocuses indoors.—How seldom one sees the Crocus used as a decoration in the house grown in small fancy bowls in cocoanut fibre and the bulbs rather crowded. They bloom well just before the outdoor display, and look well on a dinner table, as, being short of growth, you look down on them and see the full beauty of the open flower. They do not close at night in a warm room. Some I have now in small bowls 4 inches across have fourteen or sixteen flowers on each. They must be grown in a cold house, as they will not bloom well if at all forced. —E. C., Surrey.

Lecture in North Wales.—On Tuesday, the 4th inst., Professor Phillips, of the Bangor University College, delivered an interesting address, illustrated by lantern slides, on "The Origin of the British Flora," at the Town Hall, Denbigh, the chair being taken by his Worship the Mayor. The lecturer's remarks embraced the following topics: The flowering plants of the British Isles: the British flora contrasted with that of Switzerland and oceanic islands: the groups into which our native plants may be divided: the northern and southern elements in our flora, and how their existence may be accounted for; the geological history of these islands; the glacial period, &c. A most enjoyable evening was spent, and the lecturer was accorded a hearty vote of thanks by the Mayor, which was suitably seconded by Mr. J. Denman.

A valuable early Lettuce.—The well-known Lettuce Commodore Nutt has been catalogued many years, but I do not at the present moment know of a better variety for first crop in frames, boxes, early borders in the open, or at the foot of a south wall. For many years previous to its introduction, and the larger but equally good

Golden Queen, we sowed large breadths of what are termed autumn Lettuces for a spring supply, and that supply was rarely a profitable one, as only in the most favoured localities are the last-named a success, but if the Commodore Nutt is sown under glass early in January or in boxes and grown on there will be good salading in three months from the time of sowing. These plants turn in so quickly once the rough leaf is growing freely, and though small they have compact hearts, and are just the thing for the salad bowl. They may be grown in boxes and do well when only 4 inches to 6 inches apart; they can be grown well in frames or on shelves in fruit houses. I have cut good heads in ten weeks from seed sown on a slight hot bed, and the plants pricked out, or a portion thinned and left to mature where sown. I do not advise this variety for summer work as it does not keep long but bolts at the later season. —A. C. N.

Must be workers.—The note by "A. D.," page 119, is one that all young gardeners should read, and I am sure those who have made their way in horticultural pursuits will agree with me that mere study without practice is useless. Many of our leading growers who supply our markets worked hard at the start. Many began in a small way, but hard work, study, and good practical knowledge have resulted in success. I fear some young men do not think this hard work necessary. I am aware that gardening is not inviting at the start, and to be successful there must be no half measures. I am reading the notes that appear in THE GARDEN on "The Bothy," and certainly some of the writers are not too engrossed in their work, and think more of amusements. Such notes as "A. D.'s" on workers in the garden should be read and pondered over by your correspondents. —A. C.

New Zealand Veronicas in Midlothian.—As a great admirer of New Zealand Veronicas, I was much interested in reading Mr. Wolley-Dod's experience of them at Edge. In my garden, 600 feet above sea-level, I find *V. Traversi* anything but hardy, and *parviflora* is killed outright every winter, and nearly every one of what I may call the green-leaved section, excepting *monticola*, appear to suffer more or less. On the other hand, no amount of frost hurts *Hectori*, *lycopodioides*, *cypripetoides*, and what I got as *salicornioides*, and Mr. Robert Lindsay assures me that *Armstrongii* is equally hardy; the same may be said of the glaucous-leaved section, such as *decumbens*, *Colensoi*, *glauca*, &c. I may add that in addition to suffering from very severe frost, my garden is fully exposed to coldest winds. —ALEX. COWAN, *Penicuik, Midlothian*.

"Familiar Wild Flowers."—The second part of this publication contains descriptions and coloured plates of *Gymnadenia conopsea* (the Fragrant Orchis), *Trollius europaeus*, *Semprevivum tectorum*, *Spergularia marina*, and others. Full particulars of a wild flower collecting competition are announced with this number.

What to do with overgrown plants.—When the various plant houses are being overhauled, as at the present time, many plants are found to have outgrown their accommodation. Unfortunately, these plants are invariably thrown away. This is a matter for regret, as the majority of them, if hardened off before the bedding season, may be used in various ways in the flower garden during summer to great advantage. The last few years have brought about many changes in summer gardening. It is now not uncommon to see tender exotic plants embellishing our gardens and parks, and each year brings some innovation. There are many stove plants admirably suited for bedding out, especially for the sub-tropical garden, where they add considerably to the general effect. The many beautiful varieties of *Dracaenas*, *Pandanus Veitchii*, and some of the stronger-growing *Crotons* make charming plants for the centres of small beds. They also add variety and effect when associated with flowering plants in mixed borders. There are many other good foliage plants too numerous to mention here which may do good service in the flower garden before being consigned to the rubbish heap. —E. HARRISS.

Strelitzia Reginae citrina.—The typical *Strelitzia Reginae*, is quite an old plant in gardens, having been introduced from South Africa as long ago as 1773, and though seldom seen it is fairly well known. It is very useful for a warm sunny greenhouse, for its stout leathery Canna-like leaves are ornamental at all seasons, while its showy flowers stand out quite distinct from those of any other plant in cultivation. The flower-scape, which in vigorous examples will reach a height of 4 feet or 5 feet, well overtopping the foliage, sometimes branches at the apex, and bears a succession of brightly coloured and curiously shaped blossoms. They have been likened to a bird's head, while the colour is a combination of vivid orange and purple. In the variety *citrina* above noted, which is quite rare in this country, the orange is replaced by citron-yellow. For the introduction of this charming variety we are, I believe, indebted to Mr. W. Watson of Kew, who was the means of introducing it during his South African tour. Both the type and the variety *citrina* are now flowering in the Mexican house at Kew, where, planted out in one of the borders, they are just at home. Where there is no convenience for treating them in this way, they need large pots or tubs as the roots are vigorous. The soil, too, should be of a fairly holding nature, say, two-thirds loam to one-third leaf-mould and well decayed manure, with a good dash of sand.—T.

Acacia acinacea.—This is one of a number of ornamental species of *Acacia* which are rarely seen in cultivation, but which are all worthy of inclusion in collections of greenhouse plants by reason of their free flowering and comparatively easy culture. Like the others, this is Australian, and may be grown in a cool greenhouse as a small pot plant a foot or two high; planted out it will grow 6 feet or more high, with a good bushy habit. The branches are long and slender, and from every node on last year's wood a small globular head of yellow flowers is borne on a slender stalk a third of an inch long. The leaves or phyllodes are small and narrow, rarely exceeding half an inch in length. After flowering it should be well cut back to ensure a bushy habit and to encourage long shoots for next year's flowering. It thrives in a mixture of sandy peat and loam, and is readily increased by means of cuttings. Another species, *A. verniciflua*, somewhat resembles the above, but is stiffer in habit, has longer leaves, and larger heads of flowers. In the temperate house at Kew fine plants of both species are to be seen in full flower, and anyone who sees them cannot but be convinced of their value.—W. D.

Arum palæstinum.—This appears to be hardly only in particularly favoured districts, and even where it stands the winter it does not always flower; still, a considerable number of large, well-ripened tubers with a strong central crown are sent to this country, mostly from Italy, about the month of August, and, if potted at that time or soon after, they will in an ordinary greenhouse push up their leaves gradually and flower, as a rule, in February or March. It is a most interesting and, at the same time, handsome plant, the deep green leaves being triangular hastate in shape, more or less undulate at the margins, and with the sunken veins particularly noticeable. The largest leaves are 8 inches or 9 inches across the blade, and are borne on stalks about 18 inches high. The flower scape, which is usually rather shorter than the tallest leaves, bears a spathe about 5 inches wide and longer in proportion to its width than the common *Arum Lily*. The colour of the spathe is green on the outside and blackish purple-maroon within, while the erect spadix is almost dead black. In depth of colouring there is, however, much variation, some being of a uniform blackish velvety tint, while others are tinged with green towards the apex. After being expanded for three or four days the flower becomes paler. From its resemblance, except in colour, to the common *Richardia*, it is popularly known as the black *Calla*, while botanically it also bears the name of *Arum sanctum* as well as *A. palæstinum*. The time of flowering above mentioned refers to plants in the greenhouse, as of course it is later out of doors. I have read somewhere in THE

GARDEN that the flowers are without the disagreeable odour common to many members of the genus, but this is by no means the case, for the whole of the first day after expansion they are on this account most objectionable, but by the second morning it has passed away, thus resembling in this respect some other Aroids. The cultural requirements of these large imported tubers are very simple, all they need being to be potted in 6-inch pots and in some good compost, at such a depth that the upper part of the tuber is nearly an inch below the surface of the soil, as the new roots of this *Arum* are pushed out just at the base of the leaf stalks. After flowering these plants should be watered till the leaves turn yellow, when it must be discontinued, and the pots stood on a shelf or some similar position where they have full exposure to the sun. Then, about July or August, shake them entirely free of the old soil and repot.—H. P.

Major William Clive Hussey, late Royal Engineers, has been promoted from the Assistant Bailiffship to be Bailiff of the Royal Parks and Gardens, in succession to Colonel M. J. Wheatley, who has retired under the age limit.

Failure of autumn-sown Peas.—For several years I have noticed that many of our best growers do not advise the sowing of early varieties of Peas in the autumn, and I think this advice excellent in every way. I am aware in many gardens there is very little glass, and none can be spared to raise early vegetables. In this case some cultivators sow the round white or blue Peas in October or November for a first supply, and few crops are more disappointing, as only now and again, and this very rarely, does the crop stand our variable winters, and often, should it pass through February, the plant dies in March after severe frost and trying north-east winds. This year the same thing occurs. We thought we had got over the winter, and looked forward to a fair return, but not one plant in a dozen is left the first week in March, so that both time and seed are lost. It may be asked why note such failures. Because I have seen others advise autumn sowing, and no matter what weather we have there are other troubles, such as mice, birds, and slugs; the plants have a sorry time of it. I would advise February sowings in preference, sowing such kinds as germinate freely.—A. C. N.

Rhododendron barbatum.—A large bush of this richly coloured *Rhododendron* is at present in flower in the Himalayan house at Kew. In Cornish gardens it is a well-known plant, but in places not favoured with such a mild climate and where sharp spring frosts are experienced it is not often seen, for it does not succeed well out of doors, and it can only be accommodated in very large houses. The principal objection to its outdoor culture lies in the fact that the flowers open very early and growth commences early, both being liable to injury from cold weather. The mature wood is able to stand a considerable amount of frost. It is a Himalayan species, and is said to assume the proportions of a tree 30 feet to 40 feet or more in height. Under cultivation, however, it is seen as a large bush. In Cornish gardens many hybrids exist which claim this species as one of the parents; of the number, that raised in the garden of Mr. Shilson, and called *Shilsoni*, is probably the best. It bears handsome, compact trusses of deep blood-red flowers of a thick, waxy texture. The other parent is the dwarf-growing, large-flowered *Thomsoni*.—W. D.

M. Louis Gentil.—After having filled for three years the important post of superintendent of the plantations of the Haut Congo, Coquilhatville, M. Gentil, who is now on a mission as inspector of the forests of the Independent State of the Congo, has recently been appointed by the Belgian Government as Chef des Cultures Coloniales et des Serres at the Botanic Gardens, Brussels. His first start in horticulture was made in one of the Government schools of horticulture in Belgium, after which he came over to England and spent some time in Messrs. Veitch's nurseries at Chelsea, which he left to

make a stay at the Royal Gardens, Kew. While there he was most attentive to his duties, and we offer our hearty congratulations and best wishes to the new Chef de Cultures, who is well known and enjoys a wide friendship in England.—G. S.

Encouraging insect-feeding birds.—In spite of constant complaints of the ravages by insect pests in our orchards and gardens, little or nothing is done to encourage our insect-feeding birds. On the contrary, all our care seems to be misdirected in feeding up the mischievous house sparrow and other seed or fruit-eating birds. For many years I have encouraged the nesting of titmice, wrens, robins, and hedge-sparrows in my garden, with the result that my fruit trees are always clean and free from maggots, &c. During the winter I feed these birds with suet scraps or other meat fat, suspended from the branches of trees or placed in some other cat-proof position. This food is always put near suitable nesting boxes, also cat-proof, so that in the spring these charming little birds build their nests in the places provided for them, and in return for their winter food they keep my trees free from insect pests. Last year I had six nests of these useful birds in my garden, and I am sure that if my plan be generally adopted we shall hear a great deal less of the ravages by insects and of the damage done to flowers and Peas and other seeds by the common house sparrow, which bird at present enjoys so much misplaced consideration. Further details, particulars of measurement, &c., will be given with pleasure. The London County Council has, as an experiment, given instructions for my suggestion to be adopted in their parks and gardens.—EDWARD LOVETT, 41, Outram Road, Croydon.

Cyphomandra betacea (the Tree Tomato).—Perhaps my experience in dealing with this too vigorous plant may be of interest to Mr. Dugmore. I sowed the seeds in March, transplanting the resulting seedlings to large *Chrysanthemum* pots and grew them with a batch of Capebulbous plants outside for the whole summer. The plants attained a height of 5½ feet, growth being terminated by an abortive inflorescence. The bare stems were wintered in a cool house and planted out in the following April. They branched freely, eight to twenty branches being the average for each tree. Each plant fruited in June-July, and as the situation was hot and dry the fruits were of much better flavour than those produced by the Kew specimen figured in THE GARDEN. The plants were thrown away after fruiting once, as others were available to take their place. I think if the tree is grown on the lines I have indicated it is not only easily managed but the fruits have a better flavour. So far as my experiments show the plant will not cross with the garden Tomato or *rice versé*.—G. B. MALLETT.

Nelumbium pekinense rubrum and N. luteum in the open.—In No. 4 of *Möller's Deutsche Gärtnerei* is an exhaustive article with illustrations on the culture of the *Nelumbiums* grown to the highest perfection in a pond in the gardens of Count Bombelle, Castle Opeca, near Vinica Croatia (Lower Austria), a climate colder even than that of the North of Scotland, with the summer heat, however, slightly higher, and less variable. The head gardener, Mr. Schendel, says: "About seven years ago I sunk two rhizomes of *N. pekinense rubrum* in a basket in the mud of the shallow part of the pond. The first year the growth was weak, and the early frost destroyed the few leaves before the plants had time to get established. In the winter, to prevent freezing of the rhizomes, the water was raised 18 inches higher. Next spring, no leaves making their appearance, I was afraid they had been killed. However, the leaves appeared at last, and before the autumn I had over 100 finely developed leaves. I planted a few more roots also of *N. luteum*, and last summer I had over 1,000 splendid flowers with stems 8 feet high."

The Cylindrical Agaricus.—I was doubtful for some time as to the correct name of an edible fungus that has been eaten when in season for many years, but a reperusal of that useful old work, Rhine's "Vegetable Kingdom," left no

doubt as to its identity, as it is remarkably well portrayed at different stages of growth. Although regarded generally with suspicion, and, in fact, as being poisonous, it really forms a wholesome dish. It also possesses the merit when well cooked of being thoroughly digestible, and may be eaten with impunity by those to whom the Mushroom is an impossible article of food. With well cured bacon it is an excellent breakfast dish. Although occasionally found in dry spots it is most at home in damp, low-lying places under partial shade, and should be picked for eating whilst the cylindrical form is maintained and before the lower part expands. By the transfer of rather deeply cut turves where it is found to other situations I have endeavoured to secure its extension, and hope to be able to chronicle the success of the experiment.

—E. BURRELL, *Claremont*.

A SELF-SOWN WALL GARDEN.

Now that wall gardening is so rapidly growing in favour, it is well to remind our readers that now is the time to sow seeds in chinks and in the little pads of moss that gather about the joints of old walls. How willing even quite large plants are to grow in such places is shown by the illustration of a wall, by no means dilapidated, where some Foxglove seed had settled by some natural agency (for it was never sown there) and made this pretty picture of excellent wall gardening. Foxgloves and Mulleins are some of the best of wall plants. In a wall like this, where the roots have no chance of spreading backwards, the plants are, of course, stunted, though they flower abundantly. In a dry wall—that is to say, a wall built without mortar to support a bank—they will grow to their largest dimensions.

EXHIBITION VEGETABLES.

(Continued from page 174.)

LEEKS.

It must not be assumed that the magnificent specimens sometimes staged are brought to such perfection without a considerable amount of trouble and forethought. Indeed, few vegetables cultivated for exhibition require more attention to bring them to such a high standard of excellence. For some reason or another, our northern friends generally excel in their culture, this being no doubt due to their better knowledge of the Leek's requirements, but at the same time when valuable prizes are offered in open competition the southern growers of late years have not been far behind, and in one or two notable instances have proved victorious.

Leeks are generally shown six together, and these should be as alike both in length of blanched stem and circumference as it is possible to get them. The blanched part should be of the same thickness throughout, with no sign of bulbing at the bottom. Many growers attach too much importance to the length the Leek is blanched. I consider this is a mistake, it does not denote any special culture. A fair length is from 15 inches to 18 inches, and each should measure from 8 inches to 9 inches round. Reject any that show the slightest indication to throw a flower spike. All the rootlets and flag should be left on, and the blanched part be as white as is possible to get it. For early shows make the first sowing of seed early in January in a compost similar to that advised for Onions. In this case it is better to sow the seed in well drained 3-inch pots, the soil being made only moderately firm. Place a few seeds in the centre of the pots, cover to the depth of about half an inch, and thoroughly water in.

Place the pots in a gentle heat, from 50° to 55°, keeping them near the glass, and carefully avoid over-watering. Remove all except the strongest and most vigorous plant in each pot, while frequent dampings overhead are very beneficial at this stage of their culture. Immediately the pots are well filled with roots, shift on into 6-inch pots, adding a 6-inch potful of bone-meal to every half bushel of compost made up in the first instance. Pot fairly deep and press the soil lightly about the roots. Grow on in a genial temperature, and shorten back the tips of the leaves once a fortnight. Gradually harden off in a cold frame, and by the middle of April they should be ready for planting out.

The trenches should be 18 inches wide, 2 feet deep, and the bottom well broken up with a fork. On this place 4 inches of half-rotted cow manure, filling up the remainder of the trench with a mixture of good fibrous loam, leaf soil, old Mushroom bed manure and road scrapings in equal parts, with a free sprinkling of finely sifted mortar rubbish and bone-meal. This will make an ideal mixture for them. Put out the plants 15 inches apart in single lines, disturbing the roots as little as possible and pressing the soil only moderately firm. Give a good watering afterwards, and if the weather is rough and stormy shelter must be provided. Damp over frequently in dry weather, and do everything possible to give the plants a good start.

Unlike Celery and most other things which require blanching, the Leek must be drawn up and blanched in its early stages of growth, as it is quite impossible to do so with any success after the growth is made. Ten days after planting commence the operation and use brown paper collars or stiff brown paper, the former for preference. They can generally be purchased at a cheap rate from the various seed houses. A small stick should be placed on each side of the collars to prevent their blowing about. Water freely once a week, and apply a small quantity of some good artificial manure, say, about a dessertspoonful to each plant.

As the heart appears above the paper collar this may be drawn up until the desired height is reached, placing a little fine soil round the base of the plant. A month later zinc collars 9 inches long, and sufficiently large to avoid injuring the plant, and soldered together, should be placed over the paper collars, and these secured in position by a small quantity of earth. Later on add similar pieces of zinc, placing them on the top of the first one and adding



A NATURAL WALL GARDEN, FOXGLOVES, FERNS, AND OTHER PLANTS.

more soil. Keep the plants well watered still, and at every third application apply liquid manure. Gradually earth up until the top of the zinc collar is almost reached, but extreme care should be taken that not even the slightest particle of soil finds its way to the heart of the plant or this will wash down and do much to mar the appearance of the specimens. When lifting Leeks first with great care remove the soil with a spade, so that they are not bruised or injured. Withdraw the pieces of zinc by holding the leaves with one hand and drawing the cylinders over the top with the other. Then shift with a fork with as many roots as possible. Tie the foliage in two or three places with raffia to prevent the leaves splitting, and wash thoroughly, carefully removing only the outer skins. Let them drain head downwards and keep covered with a clean linen cloth until ready for packing. Tie a narrow piece of white tape round at the top of the blanched part, when they should be carefully wrapped up in soft white paper. Leeks are presented on the exhibition stage in many ways, but I prefer to see them arranged on a black varnished board and in an almost upright position.

ONIONS.

Few vegetables, especially from an exhibition point of view, have been more improved upon during the last few years than the Onion. It now forms one of the most important and interesting subjects at all our vegetable exhibitions, and no collection of vegetables at any season of the year is complete unless a dish is included. Consequently all interested in the production of high-class vegetables must endeavour to produce the finest specimens. Fortunately Onions are not fastidious as to soil or position. Anyone with

a garden and who is prepared to take the necessary trouble can excel in their culture.

Preparation of the land is unquestionably the first and most important part of Onion culture, and without it first-class specimens are impossible. Select an open sunny position for the site, bearing in mind that, unlike most other crops, it is not at all necessary to change the ground, but on the contrary, as far as my experience goes, better results will be got by utilising the same ground annually. The best bulbs I have yet produced were those of last year (1901) on ground upon which our large Onions had been grown for the last seventeen years. The ground must be thoroughly trenched to the depth of at least 3 feet, the subsoil well broken up, and the bottom spit brought to the surface each year. I regard this of the utmost importance. The time at which the trenching should take place depends on the soil one has to deal with. A light soil should be so treated as early in the autumn as circumstances will permit, but that of a stiff retentive soil will be better left alone until February.

It is quite safe to say that hardly too much farmyard manure can be given when trenching. The longest should be placed quite at the bottom of the trench, and the shorter and more decayed in the centre. In the course of trenching, no matter at what season, always leave the surface rough so that as much of the soil as possible will receive the full benefit of the weather. Immediately it is finished apply a good dressing of soot, and in the case of stiff wet soil strew the surface with fine mortar rubbish, road grit, and burnt garden refuse, all of which will prove beneficial. It may be thus left until the early days of April. It should then be forked over to the depth of 8 inches and made very fine—choosing good weather for the purpose—when another dressing of soot and some approved patent manure should be given. Afterwards rake over, leaving the surface quite fine and level.

The beds should be marked out 10 feet in width, allowing a good broad alley, sufficiently wide to walk between comfortably for watering and giving the necessary attention. Mark out the rows about 15 inches apart, and allow a distance of 1 foot from plant to plant. The plants should have been brought forward properly hardened off and ready for transplanting to their permanent positions as early in the month of April as the weather will permit; lift with a garden trowel, plant firmly, and always use light boards for walking on.

E. BECKETT.
(To be continued.)

MISCELLANEOUS.

CHRYSANTHEMUMS
IN CHINA.

FROM a correspondent in China we have received two interesting photographs, one of which we here reproduce. It shows a collection of the popular flower in its native home, and is therefore interesting because of the comparative rarity nowadays of anything we receive concerning the Chrysanthemum as grown in China. With the exception of what we know from Robert Fortune's works, the only information about this flower that has

come under my notice in recent years was some matter collected by a friend in 1889 who was engaged in the work of the China Inland Mission, much of which appeared at that time in the columns of a contemporary. Quite recently we have seen here in England the original Chrysanthemum indicum from which the Chinese varieties have sprung. It is a small Daisy-like flower, and many people appear to think that this was the species originally imported into Europe, and that it has been improved by European florists into something like what we possess to-day. This, however, is not the case, for the flower had been long cultivated in Chinese gardens before its introduction into Europe by M. Blancard of Marseilles in 1789. The forerunner of our popular autumn favourite was a cultivated variety of good size, and was known as the old purple Chrysanthemum by growers of the period. On looking at the illustration one cannot fail to notice the extreme regularity of the plants, a feature also to be observed in many of the Japanese collections, and the evident dis-budding, a practice long since adopted by Oriental gardeners, and borrowed by us at an early stage in our cultivation of the Chrysanthemum.

The tickets attached to the plants show that the Chinaman, equally with his Western confrère, pays some attention to nomenclature. We do not learn that they ever honour their friends by personal names as we do sometimes unfortunately here. The system adopted by Oriental gardeners is rather a mixture of the descriptive and poetical style, and many of their names are at once curious and fanciful. Hence we find such appellations as the Crystal White, the Yellow Tiger's-claw, the White Waves of Autumn, the Purple Butterfly, the Yellow Gold Thread, Purple Pheasant's-tail, and many similar. In an English translation of an old Chinese book on the Chrysanthemum, published considerably more than a century ago, I find a large number of these curious names together with other descriptive matter. Yellow appears to be the most highly appreciated colour by the Chinese, and great care is bestowed upon the growth of the foliage according to this old writer. A glance at our picture will show that the modern Chinaman has not departed from this standard of excellence. To ensure the best results, Chinese gardeners are believers in what our Continental friends call *culture intensive*, and Mr. Fortune tells us that the compost for potting is generally composed of the

mud from ponds where the Water Lily grows. This is allowed to dry and is then reduced to a powdered state. A strong manure, not usually used in this country, is incorporated with it, and the whole is frequently turned, and in course of time is fit for use. During the whole period of growth the plants are watered with liquid manure, a practice which one of our earliest cultivators, Mr. Wells, of Redleaf, said that he borrowed from a Chinese gardener.

C. H. PAYNE.

COOKING SWEDES.

I HAVE read two or three paragraphs in THE GARDEN lately about this plant as a table vegetable, and I wonder very much it is not more used. A few years ago it was scarce, but now it can be bought at all good greengrocers. I give four good recipes for cooking this root, and have no doubt some of your readers will contribute others. The tops of this Turnip are generally cut up like those of the white Turnip or Cabbage, but if rubbed or pressed through a wire sieve like Spinach, and a little butter and pepper put through and served very hot, it is quite a different vegetable. Mashed is the common term, but again there is all the difference when put through an American presser.

Another way is to serve the Turnip cut in slices about a quarter of an inch thick, one slice laid over the other, fresh butter put on lightly between with a dash of white pepper, pile one layer on top of the other so as to form the shape of a large Turnip, then cut down through in four pieces, and serve very hot with fried Parsley as a garnish. They are also good if, like Parsnips, they are three-parts boiled, cut in slices, and again cut into squares and fried. This is very nice in butter or with boiled beef, or in any of the many ways for which white Turnips are used. Years ago when Swedes were not as much used as they are now, in our garden at Newry we always grew Honey Turnips for table use, but I have not seen this variety for many years. It was a small yellow Turnip.

A. H. TYRRELL.

NOTES FROM SCOTLAND.

PLANTING GLADIOLI.

AT one time a not uncommon addition by horticultural advisers was the formula, "It may be a



A CHRYSANTHEMUM SHOW ON THE RACE-COURSE AT FOOCOW, CHINA (From a photograph sent by Mr. Wallace.)

fortnight later in Scotland." Most commonly the reverse would have been correct, for many things must be planted or sown in Scotland earlier than in England in order to make up for climatic drawbacks. The treatment of Gladioli of the Gaudavensis section as well as most of the Lemoinei and Nanceianus sections is a case in point. These can be planted in England out of doors, and their date of flowering somewhat loosely determined according to the time of planting, but in Scotland it is not so. Shakespeare, Penelope, Marie Lemoine, and M. de la Devansaye are varieties that in most seasons could be planted where they are to flower, and they would do so, but the seasons are too short for the majority to be depended on either to flower or to form new corms. Accordingly it has for a very long period been the practice of those who have studied the requirements of these autumn flowers to start them into growth under glass, and to plant when danger of severe frost is past. Many err in starting the corms too early in the season, so weakening the spikes. I find the end of March or beginning of April quite early enough to secure a sturdy growth and abundance of roots for planting in the first half of May, for even if the growths are caught in a late frost, like many other plants that succumb to an autumn frost, these do not suffer from an ordinary one at the beginning of the season. The method of forwarding need not entail much labour, and as a matter of fact they succeed perfectly well placed almost touching in ordinary cutting boxes, rough leaf soil being a suitable rooting medium. The corms do not require to be covered, nor is an abundant supply of water to be commended. When ready to plant the soil should be somewhat dry, when each corm will lift with all its roots intact, and carefully planted they do not appear to suffer any bad effects. These Gladioli are all capricious, and it is only possible on certain soils to preserve a collection intact. No doubt the corms become worn out, and if it could possibly be effected a succession raised from the spawn would be the proper method, but many kinds fail to produce spawn, and of those that do it is seldom sufficiently perfected to be of any use.

THE FLOWER GARDEN.

THE VANISHING BULB.

IF these dear little punchy gnomes, with whose interesting personalities we are most of us acquainted (in terra-cotta), were only folk of fact, how useful they might be to us in our gardens, and how frequent a sight would be a small notice-board, erected for their benefit and inscribed with some such temporary legend as: "Lost or strayed, one dozen Lilium auratum, in their second year;" or, "Lost, planting of Montbretia rosea and Sparaxis; liberal reward on returning to the gardener."

The merry little men are, however, gone long since to those inner and secret fastnesses that have also invited the Brownie, who, I believe, fled finally and most mournfully when automatic carpet-sweepers came in, and when we lose our garden favourites the loss is one by which we are bound, willy-nilly, to abide. Sometimes it is our own fault—always a truly consoling reflection of course—as when we forget to house the hybrid Gladioli, and they rot away under the combined influence of wet and frost, but more usually it is our pure misfortune.

In my garden—which, by the way, will in a very short time now be somebody else's—if any more of those strange and weird resuscitations take place that I have known to occur on several occasions, the somebody else will have some pleasing surprises. I have often planted hardy Cyclamens, to take a case in point, and they have as consistently disappeared. Fluctuation between all sorts of theories about

their elusion ended in the belief, in which I remained until last autumn, that the field-mice liked them as much as they do Squills, which is giving a very sufficient reason for their evanishment. When I returned to my garden, however, after a long absence, last September I found several healthy colonies of silver-grey, green, and pink-shaded leaves, some of them in places where I could swear I had not planted them at any time, and others where, or whereabout, I have dim recollection of planting them long ago. On the other hand, there is not now, and never was, sign or trace in the grass round an Apple tree root where I put in half a dozen *C. Coum* and *C. europæum* two seasons ago.

The behaviour of the Dog's-tooth Violet is no less eccentric—in fact they, as far as my small experience goes, equal Snowdrops in this respect. I have a particular affection for the Erythronium family, and have set some hundreds of it all over the garden, and more especially in groups at intervals along one wide wall-backed border, the whole of which is in precisely similar case as to soil and sunshine, and everything else of the kind. Yet there are three or four intensely vigorous clumps of the pink and yellow gaily together in one spot, yearly enlarging their borders, and not a single Violet (he who so named them had, certes, a vastly poor eye for affinities, since they are miles nearer the Cyclamen than a Violet, and are, perhaps, more like a Montbretia in shape of flower than either) elsewhere in the bed. South African bulbs would, of course, rather disappoint the gardener than otherwise if they all and always came up. One quite expects a bed of *Ixias* or *Sparaxis*—but the latter I find infinitely less reliable than the former—to show caprice, pointing thickly the first year, with scattered spears the second, and again in battalions the third, while such little jewels as the Zephyranthes would lose part of their charm if they were not elusive. But there seems an unseemly and unbefitting frivolity about caprice on the part of the great solid bulbs like the hardy *Crinums* and *Amaryllises*. Not that mine have been capricious, although I have heard them so described by others; mine have been quite consistent; they have, one and all, steadfastly declined to do more than spike one grudging spindle through the surface, and afterwards vanish, so far as any appearance of life above ground goes. They have had plenty of choice—light soil, heavier soil, the soil the books prescribe, much of it, little of it; sun to baking, the warmest corner of the garden; sun in moderation, the favoured ends of the newest bed; all in vain. I have always coveted *Crinum* Powellii, *Amaryllis* Belladonna, the Jacobean Lily, and, to jump to a different kind of thing altogether, the white and that lovely scarlet wax Turk's Cap Lily (*L. chalcedonicum*) and not one of them, try as I may, have I ever been able to grow in the very least. It must be pure caprice, because I can get other things that are generally supposed to be as difficult—indeed most people seem to think *L. chalcedonicum* easy to grow—to do well. Some day it may come right and they may yield if I persevere. This I am encouraged to hope, because it was so long before I could get another thing, always particularly desired, to do any good—St. Bernard's and St. Bruno's Lilies—*Anthericum* Liliago and *A. Liliastrum*. Over and over again I have bought them, in spring and autumn, and planted them with every sort of care in all sorts of places and they always vanished until last year, and then two clumps, from two separate nursery gardens planted in two quite different places, not, however, differing from those I had tried them in

before—both flourished and grew and spread—and flowered! I suppose I must try all the other missing beauties once more in our next new garden, which will, I hope, be a far more permanent one than any we have so far enjoyed, and may it only not be with that result that gives the every-ready onlooker and critic opportunity to exclaim for the five-thousandth time, in the well-worn but ever-invariant formula, "I told you so! Throwing good money after bad!"

M. LESLIE-WILLIAMS.

THE ROSE GARDEN.

PRUNING ROSE HEDGES.

WHERE these have become bare at the base now is the time to take means to remedy matters. If the plants are well established needless growths may be cut down level with the ground; in fact, the whole hedge could be so treated if desired. Such a drastic measure, however, will rarely be necessary. The unfurnished condition of the base of a hedge can often be attributed to a bad start. If the plants were pruned severely after they had been planted twelve months there would be no reason for complaint on the score of "bushiness." All Rose hedges would benefit if one or more of the oldest growths upon each plant were cut down hard each season, and thereby secure a constant succession of new wood.

Old or discarded varieties of Roses if vigorous and no longer required may be rebudded with modern ones, but steps should be taken now to promote new wood. With such plants I would advise cutting them down to the ground, and as new shoots develop select four or five or more of the best to be budded.

This would only apply to somewhat young plants. If very old undoubtedly the best plan would be to replace them with young ones. Overgrown bushes of *Rosa rugosa*, Scotch Roses, or any of the various species and varieties not grouped with the show Roses may be severely pruned now. Painting over the cut part with "knotting" will prevent loss of vigour caused by "bleeding."

ROSE DUKE OF ALBANY (H.P.).

THIS is a very striking Rose in point of colour, and I am glad to find it is gaining in popularity, for it is a variety one can honestly recommend. Every Rose that is brilliant, and a good free-flowering variety as well, is sure of a welcome, especially if it is fragrant, as this Rose is. Duke of Albany is of a very vivid crimson, something in the way of Prince Arthur, but more double. The beautiful velvety black shading tends to enhance the scarlet-crimson which predominates. It is of excellent form, scarcely large enough perhaps for exhibition, although I have seen flowers that would help a box in the front row merely only for colour, but the Rose has an excellent high centre also. For autumn-flowering Duke of Albany is well to the front among Hybrid Perpetuals, and for this reason alone I can recommend it. The growths have a formidable array of spines, as much so as Marie Baumann, of which probably it is a near relation; the foliage, too, is something in the same way, also the habit.

ROSE EUPHROSINE UNDER GLASS.

I THINK we do not half appreciate these lovely Rambler Roses. They are looked upon as only suitable for the outdoor garden, but let anyone grow them as pillars in pots and they will be charmed with the exquisite miniature blossoms. Especially is this true of Euphrosyne, the Pink Rambler as it is sometimes named. The young opening flowers are of a clear, bright pink, with a wealth of golden stamens, and on the same panicle the older flowers pale off to two or three shades of pink. Then, too, the fragrance is so distinct, with that spicy peculiarity of the tribe, also of many



THE MOCCASIN FLOWER (CYPRIPEDIUM SPECTABILE) IN THE GARDEN OF THE LATE MR. SELFE LEONARD, HITHERBURY, GUILDFORD.

of the Noisettes, such as Aimée Vibert. Where a collection of hardy shrubs is forced I cannot see why Roses of this type should be omitted. Surely they would add much to the beauty of a collection by their graceful habit and immense clusters of blossom. It is not too late to pot up plants for another season. Cut them back to about 1 foot of their base and tie up the new growths in pillar form. They will need no further pruning until after they have flowered in the forcing house.

PHILOMEL.

NOTES ON HARDY PLANTS

PERENNIAL ADONIS.

IF the different species of Adonis resemble each other very much, they number, nevertheless, without exception, some of the most showy, distinct as well as desirable, of the natural order Ranunculaceæ, and there is not a single species or variety that does not deserve to be cultivated. All are of easy culture, usually delighting in a fairly moist, sunny position in soil which is not too light, although with a little care nearly all might be grown in any soil, even in pure sand.

A. vernalis is the most common but none the less a pretty plant found in a few places in Great Britain, but still more plentiful is it on the Continent, especially in Central Europe. For instance, on the limestone formation, or what geologists call muschelkalk of Thuringia, in early spring (March until the end of April) some of the damp but sunny hillsides are ablaze with thousands of these large yellow flowers—a glorious sight indeed. They are nearly all bright yellow-coloured in some places, while in other districts their shading is much paler, although the foliage is the same. Another peculiarity is their tendency to doubling. *A. vernalis* has a fibrous rootstock with finely cut, multifid leaves, and stems about 12 inches to 18 inches in height. The flowers are large, with ten to twenty, sometimes more, large oblong petals, the leaves fully developing after the flower is past.

A. colgensis is a pretty species, apparently

intermediate between *A. vernalis* and, perhaps, *A. pyrenaica*. The flowers are bright yellow, and appear in April.

A. walziana is probably a garden form with more feathery foliage than *A. vernalis*, and has tall pyramid stems 1 foot to 2 feet in height, and large, bright yellow flowers.

A. pyrenaica is the best of the European species, combining with vigour of growth great freedom of flowering. The large, handsome leaves are of a light green colouring, the radical ones being usually long stalked and finely cut, while the cauline ones are quite sessile. When the plants are well established or in their natural habitat they form fine bushes up to 2½ feet in height, much branched, on the extremities of which are the beautiful large bright, sometimes deep yellow, flowers with large obtuse petals. The plants appear to be very local on both the French and Spanish side of the Pyrenees, but, owing to injudicious collecting, had quite disappeared in places where it was once very plentiful. I am, however, glad to say that I believe only a small number of plants grown at the present time in English gardens are collected, as they can easily be raised from seeds. Seedlings are certain to grow when transplanted, but not collected tufts. My own experience is that collected plants, even when the greatest care is exercised, unless collected when dormant, frequently die. The proper time for planting is during the winter or early spring. The best soil is a well-drained loam in a fairly moist position, and the soil should contain both sufficient humus and lime. The plants will take some time to get acclimatised, not showing their true beauty until two or three years have elapsed since transplanting. It flowers later than all the other species, usually from May till July, and will sometimes produce a second crop of flowers in the autumn if the weather is wet and warm.

A. amurensis is undoubtedly the best of the perennial Adonis. It has been so well figured and described in THE GARDEN that it is needless to say much about it now. The foliage is similar to that of *A. pyrenaica*, but rather more pinnate and of a deeper green. The stem grows about 1 foot to 3 feet in height, and is much branched and very ornamental, while the flowers are large, deep yellow, and appear with great freedom,

and during mild winters as early as January, especially when in a sunny position. The plant is very hardy. The double form, *A. amurensis* fl.-pl. is also very pretty, and a fine plant. Both these Adonises are far from common in gardens, as they are of quite recent introduction from China; they are very easily grown in any fairly good garden soil in a not too dry and exposed position.—G. REUTHE.

CYPRIPEDIUM SPECTABILE.

CYPRIPEDIUM SPECTABILE, popularly known as the Moccasin Flower, is the finest and most easily grown of all hardy Cypripediums. The strong growths, which are clothed with broad, ample hispid leaves, frequently exceed 3 feet in height in moist, congenial districts, such as Devon, Ireland, and the South-West, where the plants form immense clumps yielding several hundred flowers each season. In drier and colder districts its growth is much restricted—a plant 18 inches high around London is considered a good specimen. The bold striking flowers are fully 1½ inches across, borne in ones and twos, and are equal to those of many exotics in beauty of form and colouring. They have broad, rounded petals, usually white, though often tinted with pink; the round, pouch-like lip, the size of a small Walnut, is of rosy colouring, varying also in tint. Some specimens are quite purple, others tinted pink with a darker veining. The plant has such a vigorous habit that cultivators cannot fail to grow it well

provided they choose a suitable place. The hardy Cypripediums, of which twelve species—*acaulis*, *pubescens*, *montanum*, *arietinum*, *californicum*, *candidum*, and *Calceolus*, among others, are good garden plants—are, I fear, too little understood by the majority of cultivators. They are admittedly a difficult group of plants to grow in all soils and situations. A substrata of lime, a hot, dry position, and drying winds are all inimical to their welfare. Practically, strong crowns can be flowered once anywhere, but unless the site and rooting medium are of the right kind the plants speedily dwindle and die away.

The kind of places one would suggest as likely to suit Cypripediums are moist rockeries facing west, the shady banks of small streams, and among Ferns in the hardy fernery; in fact, any place where hardy woodland Ferns luxuriate will suit Cypripediums to a nicety. They like a root run of leaf-soil and peat, mixed with a little meadow loam to give the mass solidity. The plantation should be made in small hollows, so that any storm water that may accumulate may flow in their direction, but the site must be so well drained that the water may pass away as freely as it came. In addition to these conditions, the importance of a moist atmosphere must not be overlooked. Drying winds speedily cripple Cypripediums; in fact, it is the cause of most failures with these plants; a well-sheltered position is absolutely essential for them. They are most effective in large colonies, and look best planted well in front of bold Ferns such as *Athyriums*, with slender growing Ferns about and among them, such, for instance, as *Onoclea*, the finely-cut *Aspidiums*, some of the multi-lobed *Scelopendriums*, and the lovely hardy Maidenhair, well portrayed in THE GARDEN of the 8th inst. Interest could be further maintained by planting moisture-loving *Primulas*, *Trilliums*, *Erythroniums*, and *Omphalodes verna*, with patches of *Lysimachia Nummularia* to hide the soil. A representative colony of Cypripediums, growing in association with a selection of the plants I have noted, should prove as attractive as any race of plants one could mention. Those who have no sheltered nook or corner wherein to plant Cypripediums may grow them well enough in pots or pans in frames or cold greenhouses. The fine groups of the plants annually exhibited at the great Temple show are examples of what can be



APPLE BEAUTY OF STOKE. (Original 2½ inches high, 3 inches wide.)

done in this direction. They require shade and a moist atmosphere, and will not grow without them.—G. B. MALLETT.

NOTES FROM BADEN-BADEN.

THE first greeting of spring was given me by the flowers of *Crocus Sieberi* var. *atticus*, which opened on January 2. It is a handsome species, of a pleasing form and outline, with flowers of a bright deep purple colour. After this came *Iris histrioides alba*, which is quite a gem; flowers of a pure satiny-white with orange-yellow markings. Varieties of *Iris reticulata* have been in bloom for some time. I may mention *I. r. alba*, a small but showy flower; *Aspasia* with larger flowers than *reticulata* major and of a different and more violet colour; *Melusine* is a bright sky blue; *Ariadne* might be called rainbow coloured; *Negro* is almost black. *Scilla bifolia splendens* has brighter coloured flowers than *bifolia taurica*, and is a fortnight earlier. *Hepatica angulosa nivea* I value very much; it is somewhat later than *alba*, but the flowers are more sturdy, better in shape, and of a purer white.—MAX LEICHTLIN, *Baden-Baden*.

HARDY FRUITS IN SEASON.

BEAUTY OF STOKE.

THIS is an Apple of large size, although not one of the largest. It is of a greenish russet colour, not so handsome as many others, still it is much liked even for market by those who understand its excellent cooking qualities, as well as its certain and heavy bearing properties. It succeeds well either as a standard in the orchard or a bush or pyramid in the garden. It is in season from Christmas to April. First-class certificate, Royal Horticultural Society. The accompanying illustration conveys an excellent idea of the size and outline of this fruit.

OWEN THOMAS.

LATE APPLES.

AS a keen reader of the articles in *THE GARDEN* on Hardy Fruit Culture from time to time, I would like to make a comment on an article in *THE GARDEN* on the 22nd ult., from "D. K.," County

Cavan. Your correspondent there remarks that the Apple New Northern Greening is worthless as a late keeper. In County Cavan it may be so, but the variety which I grow under that name I find to be one of my very best keepers. Next to the other one he mentions, Hanwell Souring. Were it not that I have seen the same variety selling under the same name in London at the latter end of May I would have had some doubts about my variety being correctly named. In the hope that you may be able to set this at rest I forward you a specimen along with this for your opinion. We are situated at an altitude of 500 feet, on a poor gravelly subsoil, a rainfall above the average, but well exposed to the sun, and a fine season such as 1901 just suited our locality and coloured our fruit well.

Perthshire.

STRATHALLAN.

We sent the fruit to "D. K.," who writes:—"I have received the Apple which Mr. Collins has been kind enough to send for inspection. It bears a certain resemblance to the New Northern Greening as I have it, but differs in several particulars. Mine is a much broader and less high Apple, has not the depression at the crown which his has, and is without the twirl at the stalk so like what one sees in many of the Pippin race. It evidently is a very much later keeping variety than mine, which gets quite yellow before Christmas. I got mine from Merryweather, Notts. It certainly is a curious thing if difference of soil and climate should so entirely alter the character of the same Apple. Mine is a deep, damp, retentive soil and cold clay subsoil; the situation of my garden is low and on the level of a large lake, so the conditions are very diverse. If the Apples are the same, differences being due to soil and climate, and if, as Mr. Collins says, his keeps well into May, I should say the Old Northern Greening ought to keep with him almost for ever."

EARLY-FLOWERING CHRYSANTHEMUMS.

SOME OCTOBER-FLOWERING KINDS.

IN reply to the request of "R. K." for the names of the best small-flowered October decorative kinds, introduced during the last five years, including also the best sports from the popular Japanese

Mme. Marie Masse, a doubt arises as to whether the plants are intended for border culture or otherwise. The early and semi-early free-flowering *Chrysanthemums* are essentially for outdoors, and make a bright display for often three months. When grown in pots the plants do not, as a rule, compare with those in the border, their vigorous roots appearing to resent restriction. The following are all very beautiful:—

Crimson Marie Masse.—A chestnut-crimson sport from Mme. Marie Masse, the flowers passing with age to a rich deep bronze colour. The plant commences to flower in August, and continues to do so well into October.

Horace Martin.—This is the latest addition to the Mme. Marie Masse family of plants, and is described by the raiser as a rich golden-yellow sport. It may be regarded as the most valuable of the series. As exhibited during the past season the plant is otherwise identical with the parent.

Robbie Burns.—Still another sport from Mme. Marie Masse, the colour being a pleasing shade of salmon-pink. Either in the open border or in large handsome bunches it is most effective.

Ralph Curtis.—This is a rich cream sport from Mme. Marie Masse; the flowers become almost white with age. Like other members of the same family it blooms profusely, its season being of long duration, while the habit of growth is satisfactory.

Mychett Pink.—A charming plant, with soft pink flowers, and not more than 18 inches high, with the flowers developed on a good, stout, erect footstalk; it blooms quite freely.

Irene Hunt.—This is a pretty flower, chestnut and gold in colour, and most effective in the border; it is about 3 feet high. It is somewhat uncertain in its growth in the early season, but ultimately develops into a good plant.

Ryecroft Scarlet.—For mid-October this is very effective, and to be seen at its best should be partially disbudded. The colour is a brilliant crimson; it is branching and compact in growth, and about 18 inches high. Unfortunately, the stock in commerce is much mixed, but the true variety is invaluable.

Mme. Casimir Perier.—This variety was distributed in the spring of 1896, and for September and October flowering is most valuable. It blooms profusely, developing beautiful flowers, pink, tinted white; its habit is branching, and the height about 2½ feet.

Notaire Gros.—A delightful plant, bearing innumerable silvery-mauve pink-coloured flowers of pleasing form. In early October the first flowers may be gathered, and the display is maintained until the frost. The plant requires plenty of room, as it makes very free growth, and grows 4 feet high.

François Vuillemet.—Like the two sorts preceding it, this variety was sent out in 1896. It is dwarf and branching in growth, and flowers freely. The colour is lilac-rose. It comes into flower in September and continues well into October. Height about 2 feet.

De la Guille.—Little has been heard of this variety, although distributed so far back as 1896. Its flowers are very charming, of a distinct shade of rich apricot and freely developed. The plant is bushy and sturdy, and attains a height of about 2½ feet. It is an ideal October flowering variety.

Ivy Stark.—Those who know *Source d'Or* will be pleased with this; the flowers are similar in form, and the colour may be described as orange-yellow. Its period of flowering is September and October, and the plant rarely exceeds 2½ feet in height. Should be slightly disbudded.

Mlle. Guindudeau.—This is another of the better September and October flowering varieties; the flowers are rather larger than those of many other sorts, the colour being a deep silvery-pink. Habit branching and sturdy; height about 3 feet or rather less.

Eva Williams.—A sport from Mlle. Guindudeau; the colour is a charming combination of cerise and flesh-pink. In other respects the plant is identical with the parent.

Mychett White.—This is without doubt the best of the early white Japanese varieties. It is at its best during the latter part of September and throughout October, and the flowers are then very welcome. Unfortunately, its constitution is not over robust, and for this reason it would be wise to take special measures to preserve the old stools in hard weather. It is free flowering and branching, and about 2½ feet high.

Market White.—Another excellent pure white variety, coming into flower during the early days of October. It is a free-flowering plant, bushy in growth, and about 2½ feet high.

White Quintus.—This variety has been included because of its value for late October displays. The flowers are of purest white, and the plant is vigorous and very free. It is named White Quintus, being a sport from O. J. Quintus.

Satisfaction.—This is of recent introduction, and has pretty little ivory-white flowers, with cream-coloured centre. The plant is dwarf, branching and free-flowering. Period of blossoming, September and early October.

Godfrey's Pet.—An introduction of last season, and a welcome addition to the bright yellow Japanese varieties for late September and October. Each flower, when the plant is slightly disbudded, is useful for cutting. Very dwarf, bushy habit.

Harmony.—This is another variety for late September and October; it has bronzy terra-cotta flowers, and is of dwarf, bushy habit.

Ryecroft Crimson.—A useful addition to the October flowering Japanese sorts. The flowers are crimson, of a reddish shade. The plant, which is about 3 feet high, should be disbudded. Bushy, sturdy habit.

D. B. CRANE.

A DAY IN A JAMAICA GARDEN.

(Continued from page 173.)

CROTONS of simple kinds go well in the Aster quarter, not those crimped, curled, apparently burnt and ugly specimens in which collectors find consolation because they are varieties, but honest clean greens-and-whites and greens-and-yellows. Some add just a hint of brownish red not unacceptable. White Zinnias look well in this company. Their white is beautiful, beginning with a tinge of green and always good to the end. On the other side of the Crotons we take up red again with Salvias. Zinnias in warm pinks and pale yellows companion them, and there are yellow Plume Celosias.

Hibiscuses are at their best. Nothing is finer than these glorious shrubs, and there is such a variety in good colouring from red to yellow and white and all shades between. Some, too, to be found in bad pinks by the careless or collecting. A salmon-buff with claret eye has a post of honour on a piece of turf to itself and the old red is freely used for it is as handsome as any. The most astonishing of them is the great double red. It is incredibly large and so free flowering.

Roses are not admitted in large numbers to the garden round the house. Two, however, are very useful, a small crimson Monthly and William Allen Richardson. The first makes patches on steep, burning banks minding nothing in the way of heat; the second grows as a standard, whose weeping habit gives semi-shade to things below. It is never out of bloom the whole year through. The crimson Monthly grows about 5 feet high, and is cut down to the roots every now and then with the cutlass. In a few days there are young shoots with coppery

leaves, and in less than a month it is in flower again. It is the readiest to part with its scent of all the Roses and sends its perfume far. Not only has it a delicious Rose smell, but there is the added spicy aroma of the almost sticky calyx. The combination of these two results in a perfume which nobody who can have it would willingly omit from his garden.

A striking winter plant is *Reinwardtia trigyna*. It is massed at the foot of the two Cotton trees which overshadow the lawn and stretch their huge arms almost over the house, and throughout November, December, and the earlier days of January displays its lovely pure yellow. For the rest of the year it forms an irregular belt of unobtrusive greenery.

The dry months before us suit the Geraniums. These have looked unhappy at times during the October rains which turn their leaves yellow. They are now restored to healthy green, and will soon take a prominent part in the beautifying of the borders. Considerable experience is necessary to determine the best kinds. Many are discouraged by over much sun, and

most will not thrive at all in shade. The tendency is here as with the Roses to reduce rather than to increase the number of varieties, keeping only those that do best.

The evening is closing in and I can hardly see to make notes in my book. Yet there is light enough to distinguish the fine foliage of *Begonia ricinifolia* against the stone steps and trails of red and yellow *Nasturtiums* still show something of their colour as they droop over the walls, and as I stoop I touch my old favourite Ivy-leaved Toad-flax, so often referred to as submitting cheerfully to the changed conditions it meets here and as adapting itself so perfectly to its new home.

Quite distinct still is the neat bush of a small *Tabernaemontana* always covered with white flowers like those of *Trachelospermum*, the *Rhynchospermum* of former days. It is associated with bushes of Rosemary, so placed as to touch the path and give out their grateful fragrance as we brush past.

And now nothing is to be seen but the white flowers, a Bermuda Lily, which has mistaken its time, Arum Lilies bordering the rill, a white *Meyenia*, and looking skywards the grand leaves of a Bread-fruit and the heads of Palms. And so the day in the garden comes to an end. It is past but not regretted, for it has been a happy day of peaceful enjoyment, in which no unkind word has been spoken, no unkind thought harboured. The boys and their master go to dinner satisfied with each other and with themselves.

W. J.

Port Royal Mountains (2,000 feet), Jamaica.

THE FERN GARDEN.

HARDY FERNS.

MARCH is undoubtedly the best month for putting the hardy fernery in order for the season, as after the long winter rest they are in the most vigorous condition to withstand the disturbance occasioned by shifting or dividing. The new crop of fronds, moreover, is still snugly enshrouded within the crowns, while in the case of evergreen ones, if the fronds are a little knocked about by the operation, they are speedily replaced by fresh ones, and hence the new season's growth repairs the damage. With such evergreens, however, the still green and living fronds should be retained as far as possible, since they undoubtedly contribute a quota of support to the new growth, besides affording some protection to outside plants. If we examine such plants as are in the open, we find the winter winds and snows have laid the fronds prostrate and possibly damaged them a good deal, but as a rule we shall see that the inside of the crown or growing centre has been covered up by frondage and leafy debris, which when lifted shows, especially in the Shield Fern, a plump whitish mass of incipient fronds, beneath which a closer scrutiny will show a number of active roots proceeding from the base of the crown into the soil. Common-sense will tell us at once that to clear this protection away, and expose these tender growths of both kinds to the almost inevitable keen dry winds peculiar to the month of March, is a positive cruelty, and involves an almost certain severe check. Hence, in any shifting or partial clearance of debris, care should be taken to mulch anew with some loose leafy material so as to maintain such protection until the new roots are well established and the fronds evidence this by pushing up of their own accord, as they will do in April. Wherever Ferns of the shuttlecock persuasion, that is, those which throw up a circle of fronds round a central core, have formed clumps of numerous crowns by producing offsets, it is always advisable to remove these offsets and leave a single crown only. Single crown Ferns are always far and away handsomer and more robust than members of a crowd. Their particular varietal character is enhanced and their beauty increased by the fact that we get a symmetrical all-round plant instead of a bunch in which the fronds are intermingled and distorted. These offsets can usually be easily removed by a



CHRYSLIDOCARPUS LUTESCENS IN A JAMAICA GARDEN.

blunt instrument being inserted between them and the parent crown, when they come away with a bunch of independent roots and easily establish themselves when replanted, or the whole plant may be lifted with a fork and the offsets pulled away. These remarks apply to *Lastreas* (male Ferns), *Polystichums* (Shield Ferns), and *Athyria* (Lady Ferns) or Buckler, all of which are strong growers of the shuttlecock type. It occasionally happens that the plants multiply their crowns by division instead of by side shoots or offsets, the central crown itself dividing into two. In this case it is necessary to wait until each crown has grown apart from the other, leaving a sort of Siamese twin connexion between the two. This connexion must then be severed by a knife, cutting, however, as little as possible and aiding the division by a gentle pull, when, as in the other case, each one will come away as an independent growth, bearing its own system of roots. Care must be taken in this operation not to squeeze the crowns or the succeeding fronds might be damaged. Those Ferns which naturally form masses by means of spreading roots, such as the *Polypodies*, are best left undisturbed, but if it be desired to multiply them the creeping rootstocks can be severed here and there and pulled apart, every piece with a growing top, a frond or two, and a few roots being capable of making a specimen in time. With the *Polystichums* many of the finer sorts, that is, the finely cut varieties, have a habit of producing young plants by bulbils on the frond stalks near the base, and when clearing away the old fronds it is well to examine them for these; when found, they may either be pegged down, leaving a few inches of the old frond stalk attached to the old plant, or the frond base may be cut off and the plantlets inserted in small pots or pans, where, if kept fairly close for a time, they will root and establish themselves. The so-called proliferums or acutilobe section of the Shield Fern bear such bulbils sometimes all the way up the frond, which then only needs severing and pegging down in good compost to produce a batch of youngsters which later on, when rooted, can be divided and potted separately.

Ferns in pots should be treated on similar lines as regards divisions, and if pot-bound should be shifted into larger sizes, not, however, into much larger ones, as Ferns, like all other plants, are injured by over-potting. A good general rule is to leave just room for the fingers between the old root mass and the new pots. It is also a good time for cleaning pots and pans, as this is better done before the Ferns start than afterwards, when damage is easily done to the new growth. In planting fresh divisions, it is well to do so fairly firmly, and to water well in, whether in pots or out of doors, and when potting to use at first such sizes as will only just accommodate the roots. Good drainage is essential, and a compost of good leaf-mould or fibrous peat, one part yellow loam, and one part coarse road sand or silver-sand—half a part suits best for general use. This should not be sifted, a rather lumpy condition below, mulched with a little finer material on top is best. Ferns of the *Polypody* habit, with travelling rootstock, do not like being buried, and under glass are best grown in shallow pans, standing on a smaller saucer, which retains surplus water without saturating the soil. Finally, if there be any vermin such as white fly, thrips, or aphids destroy all old fronds which were discoloured by their presence last season, as these are sure to bear the eggs for a new generation. In repotting the plants keep a good look out for weevil grubs among the roots, and if any of the Ferns, such as Hart's-tongues, display loose fronds detached altogether from the crown, it is certain such grubs are busy, and it is best to wash the roots perfectly clean, picking out the grubs as it is done, since otherwise they will not only never rest until the Fern is demolished, but will be succeeded by a crop of egg-laying and frond-destroying weevil beetles in the season to come. As this is one of the worst pests when once it gets a foothold, no trouble must be spared to oust it.

Finally, again, if you go in for hardy Ferns, grow only good varieties, and do not waste time on the

common ones. What those varieties are our columns have repeatedly taught, and as they are incomparably more beautiful than the raw material vended by the street hawker, and yet quite as hardy and easy to grow, it is obviously nothing less than foolish to devote time, trouble, and space to inferior types.

CHAS. T. DRURY, F.L.S., V.M.H.

RECENT PLANT PORTRAITS.

THE *Botanical Magazine* for February has portraits of the following:—

Montrichardia aculeata, a native of the West Indies and Amazon River. This is also known under the synonyms of *M. arborescens*, *M. arborea*, *Caladium arborescens*, and *Philodendron arborescens*. It is a large, tall, coarse-growing plant with a big white spathe and green base. It resembles an arborescent *Calla*, and is only of botanical interest.

Plectranthus Mahoni, a native of British Central Africa. This is also known as *Coleus Mahoni*. It somewhat resembles the beautiful *Coleus thyrsoideus*, but has more open bunches of spikes of flowers, which are also of a lilac-purple shade of colour.

Minklersia biflora, a native of Mexico. A curious trailer, bearing dull purple flowers in pairs.

Calathea crocata, a native of Brazil. This is a fine plant of the *Maranta* family, with handsome foliage, green above and purple underneath; it bears showy inflorescence of a deep orange shade of colour.

Solanum Xanti, a native of California. This is a beautiful species of slender habit of growth, bearing bunches of light purple flowers.

The first number of the Paris *Revue Horticole* for February contains a portrait with full description by the editor, M. André, of a new hybrid Rose raised by M. Gravereau, and named *Rose à parfum de L'Hay*. It is the result of a first crossing of the Damask Rose with the hybrid perpetual General Jacqueminot, and secondly of the product of this cross with *R. rugosa Germanica*. The final result is one of the sweetest perfumed Roses known, with medium-sized red flowers, which are continuously produced during the entire summer and autumn. When obtainable in quantity this variety is likely to be most valuable for the manufacture of the otto of rose so necessary for perfumes of all sorts, which has now to be almost entirely imported from Bulgaria and Turkey, except a small quantity extracted at Grasse near Cannes in the department of the Maritime Alps.

The February number of the *Revue de l'Horticulture Bèlge* contains portraits of a fine double-flowered Indian Azalea Mlle. Emma Eskhaute and a most distinctly variegated trailing foliage plant named *Ficus radicans variegata*, which will doubtless be useful for hanging baskets. [We regret that this has been accidentally delayed.—EDS.]

The March number of the *Botanical Magazine* contains portraits of *Passiflora ambigua*, a native of Nicaragua. This is a fine large flowered handsome species, which bloomed in the Palm house at Kew in 1901. It so closely resembles *P. maliformis* and *P. laurifolia* that it may be a hybrid between them.

Jasminum Maingayi, a native of Penang. This species has bunches of pure white flowers, which closely resemble those of the well known *J. gracilimum*.

Masderallia elephanticeps, a native of New Grenada. This is also known under the synonym of *M. gargantua*. It is a handsome large-flowered species, with bright yellow upper petal and deep carmine lower petal with long yellow points.

Aster Tradescanti, a native of Eastern North America. This is also known as *A. artemisiaefolius*, *A. fragilis*, *A. leucanthemus*, *A. miser*, *A. parviflorus*, *A. tenuifolius*, and *A. virginianus*. It has numerous pure white flowers not unlike those of *A. Porteri*.

Impatiens grandiflorus, a native of Madagascar. A most beautiful large-flowered species, but, unfortunately, most difficult to grow successfully. It is by far the largest flowered Balsam hitherto

discovered, the flowers of the native specimens being quite half as large again as those of the cultivated plant here figured. Its flowers are of a light rosy purple hue with deep carmine stripes radiating in fingered bunches from the centre. It is said to inhabit swampy places to the north-west of Tamatave at 1,200 feet elevation, where the stems root at the nodes when the plant is thrown down. It flowered in the greenhouse at Kew in November, 1900, and continued flowering for some months.

The March number of *Revue de l'Horticulture Bèlge* contains *Boronia tetrandra*, a pretty little pale pink-flowered New Holland greenhouse subshrubby plant well known in cultivation; also *Asparagus Duchesnei*, an ornamental foliage plant of much more slender and graceful habit than that of *A. Sprengeri*.

The number of *Revue Horticole* for March 1 contains portraits of the exquisitely beautiful and too seldom seen *Papaverad Hunnemannia fumariifolia*, so well figured in THE GARDEN for June 11, 1887, vol. xxxi. on page 586. This is, unfortunately, only a biennial. W. E. GUMBLETON.

PROVISION OF OPEN SPACES.

THE Earl of Meath, chairman of the Metropolitan Public Gardens Association, 83, Lancaster Gate, writes as follows to the *Times*:—

"Sir,—At a recent meeting of the Metropolitan Gardens Association, held at 83, Lancaster Gate, it was suggested that the approaching coronation afforded an opportunity, of which advantage was likely to be taken, to establish local memorials throughout the country of that important event.

"As probably steps are even now being taken, or contemplated, with that end in view, either by individuals or local authorities, it was considered desirable for me, as chairman of the association, to point out that the provision of open spaces of one kind or another for public recreation is an especially appropriate form of memorial whereby to commemorate an occasion of historic importance such as we are hoping to celebrate this year.

"It may be within the recollection of some of your readers that this association at the end of 1896 secured the co-operation of kindred open space societies—viz., the Commons Preservation, the Kyrle, and the National Trust Societies—to promote the adoption of a similar form of memorial in connection with the Diamond Jubilee, and a joint committee was formed, under the able chairmanship of Lord Hobhouse, which was known as the Queen's Commemoration (Open Spaces) Committee.

"At the termination of the Coronation Committee's labours, it was shown that some seventy places were known to it which had adopted schemes of the kind suggested by the committee, and that there was reason to suppose a number of other places had also set on foot similar schemes without further communication with it.

"Many of the spaces were generously given by individual donors, whilst others were secured by public subscription.

"In advocating this form of memorial, alike suitable to town or country, in order that it may receive timely consideration, I think I cannot do better than quote as follows from the letter which the committee alluded to above sent to local authorities throughout the kingdom:—

"Places dedicated to public recreation afford the largest social range of enjoyments; young, old, rich, poor, ailing, well, good and bad can enjoy a common ground. This is very fitting for a national memorial. Memorials in this shape also afford a greater chance of permanence in point of time. There are few institutions which do not become unsuitable, by change of habit or circumstances, whereas it is difficult to look forward to a time when an open space or some feature of natural beauty will not be a valued possession, and such element of permanence is also very fitting for national memorials."

"Open space memorials may take a variety of forms. Commons or heaths, hill-tops commanding extensive views, some pieces of woodland, sea cliff, earthwork, or other places of natural beauty or historic interest all fall within the definition, as well

as the more conventional park, garden, or playground to which we are accustomed in town. The definite dedication of doubtful rights of way, the formation of pleasant drives and walks, and last, but not least, the planting of memorial trees, whether singly or in roadside avenues, together with the provision of seats, are allied to the main idea, and may be found suitable for adoption, especially in those cases where more extensive schemes cannot be carried out.

"In one or other of these ways a lasting memory of the coronation year may be preserved in a form (to quote once more from the letter already referred to) 'which will be a permanent source of pleasure and interest to the inhabitants.'

"Perhaps Lord Hobhouse may think it worth while to again call together his committee; but in any case I trust that the suggestions I have made on the part of the association may commend themselves to your readers, and may lead to 'King Edward VII.' and 'Coronation' spaces springing up in various parts of the country.

"I need only add that the secretary of our association, Mr. Basil Holmes, at the address men-

majority of Cacti. They are too often killed in winter by excess of water or artificial heat, and weakened in summer by too much coddling. Briefly, they grow best in light, loamy soil, which should be kept in an ordinarily moist condition in summer and dry in winter. From the first week in June to the middle of September they are happiest when plunged in a cinder-bed in a frame facing south, the lights of which may be off when the weather is sunny and on during the night. The best position for them in winter is on a shelf near the roof-glass in a house where the temperature ranges between 50° and 65°. In November, December, January, and February they require no water. They should be overhauled, and, if necessary, repotted in April. There are many species and varieties, the best known and most typical being *S. variegata*, sometimes called *S. bufo*, which has flowers of leathery substance and coloured yellow with dark brown spots. Other worthy species to be obtained from dealers are *S. deflexa*, *gigantea*, *mutabilis*, *patula*, *picta*, *planiflora*, *revoluta*, *trisulca*, and *tsumcensis*. W. W.

CORRESPONDENCE.

(The Editors are not responsible for the opinions expressed by their correspondents.)

REPRINTS OF OLD HERBALS.

TO THE EDITOR OF "THE GARDEN."

SIR,—In reply to "E. C.," Surrey, in *THE GARDEN*, February 15, page 116, *re* new editions of Parkinson's "*Paradisus*" and Gerard's "*Herbal*," I should like to say that I had some time ago an idea of reprinting the first named, somewhat in the style of the cheap reprint of the first folio of Shakespeare, but found that it would be too expensive a risk to take. The only way would be to obtain subscribers enough to repay the cost before undertaking the expense of printing and publication. To reproduce the book photographically, page by page, would be so costly that no publisher would be likely to take the risk, and even if the work were reprinted I am afraid the charm and quaintness of the book would be lost.

The "*Paradisus*" is, after all, not so very rare; there are plenty of copies existent in both public and private libraries. A fine copy of the rare third reprint of the "*Paradisus*" was sold at the late Mr. Chas. Stewart Parrell's sale at Avondale, along with five other books, for £8 10s. A copy of the first edition from the Ryder collection recently brought £20 at Stevens's Rooms, but it is frequently to be met with in country places for a quarter of that price. The last copy I bought, along with nine of Gervase Markham's quartos, bound in one volume, only cost 20s., but that was at a country sale. Thirty years ago the "*Paradisus*" could be bought for a few shillings, but after the late Mrs. J. H. Ewing drew attention to its charms, in her story of "*Mary's Meadow*," the price of it went up by leaps and bounds both in this country and in America.

Parkinson's "*Theatrum*" is not worth reprinting, Johnson's edition of "*Gerard's Herbal*" (1633) being much superior, and it is commonly to be met with at country auction sales. I hope "E. C." may obtain both the "*Paradisus*" and "*Gerard's Herbal*" at a reasonable rate, seeing that their purchase is a good investment rather than an expenditure. Both these books are continually turning up at out-of-the-way country auction sales, unknown in many instances to the dealers who are so constantly on the look out for them. The

Parnell copy was catalogued with five other works in one lot as "*Parkinson on English Flowers*; engravings, 1635"; and at the same sale a slightly imperfect third folio of Shakespeare went for £35, and a Chaucer's Works (black letter), 1561, for £4 5s., showing that book sales are a lottery to some extent, even when there are many dealers present on the look out for rare books and cheap bargains.

AN OLD COLLECTOR.

THE NEW HALL v. GARDEN.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—I was interested in reading an article in a contemporary by Mr. Drury *re* new hall for the Royal Horticultural Society. It occurred to me if the new hall is to have the preference over a new garden, we Northern Fellows will have to give up the idea of ever seeing a garden established. Now the question arises which will be the best method of advancing horticulture—to have a new hall or a new garden, for it seems to me that we have, practically speaking, no garden at present, although Mr. Drury mentions in his letter that the lease of the Chiswick Garden has still a few years to run. If the garden at Chiswick is of little use at present, as is urged by many, and it seems to me with truth, will it be of any use during the few years the lease has to run? It appears to me that Chiswick has been in a hopeless condition for some time past. When one makes a special journey from the North to visit Chiswick and other places in connexion with the Royal Horticultural Society, one naturally expects to see something worth looking at, both at the Drill Hall and Chiswick; but at the Drill Hall I invariably find almost every foot of space taken up with what we term in the North "common stuff," staged for the most part by nurserymen, and one has to look very hard to find new or rare plants. When they are found, they are generally crowded together. Why is this? I am sure that there would be plenty of room for the new plants if so many old varieties were not exhibited in quantity. Again, if we get a new hall, it seems to me that the great expense which the society will be put to will mainly benefit a few, and those directly connected with the society near London, who will find in the new hall a convenient place for exhibiting their goods. I hope all Fellows will consider this matter thoroughly before coming to any decision. If all those interested in horticulture would visit the gardens and judge for themselves I am strongly of opinion that they would come to the conclusion that a new garden is of the first importance for the advancement of horticulture, and in justice to the majority of the Fellows it should be acquired. In fact, it seems to me no one with the best interests of the society at heart can possibly advocate the building of a new hall until a new garden is secured.

F.R.H.S. (in a Northern County).

GARDENERS' ORPHAN FUND.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—The publication of the annual report of this excellent charity always gives occasion for serious reflection, and that just published proves no exception to the rule.

Looking at the statement of accounts, it is truly alarming to note the serious falling off—since the establishment of the fund—of the subscriptions collected by the local secretaries. When the clarity was first instituted the amount under this heading alone exceeded the present "General Subscriptions!" In the first flush of enthusiasm it was natural to expect that a good financial record would be made by the local secretaries, and that some diminution of favours and zeal would follow as time went on, but not to such an extent as the returns show—namely, about five or six times less than at the commencement. This serious reduction takes place, too, at a time when the claims on the fund have materially increased, every election, of course, adding fresh burdens in this direction. No wonder that the committee still deplores the fact that there are many gardening centres in the country from which the fund receives little or no support. This is certainly not by any means creditable to gardeners, from the members of which



STAPELIA VARIEGATA. (One-half natural size.)

tioned, is always ready to afford information on the subject of open spaces and the powers and duties of public bodies in relation thereto."

STAPELIAS, OR CARRION PLANTS.

STAPELIAS do not find many admirers; they have an unfortunate name and a disagreeable odour, so that a taste for them requires to be cultivated. I know several enthusiastic collectors and growers who declare that the pleasure to be derived from Stapelias is only equalled by that experienced by the Durian eater, who must first overcome his repugnance to the odour of the fruit before he can experience the delight of eating it. No one eats Stapelias, although it has been suggested that the Carrion-like odour of their flowers affords protection from herbivorous animals and also attracts insects to assist in the process of fertilisation. In their requirements under cultivation Stapelias are on all fours with the

only about 1d. per week is required to make an annual subscription of 5s., giving voting power and practical interest in a splendid institution. Could not the committee prevail upon the leading gardeners to act as local secretaries for their respective districts, and so remove this well-grounded complaint of lamentable lethargy in such a noble cause as that of practically listening to the orphan's cry? It is very regrettable to look through the list of subscribers and note the absence of many names well known in the world of horticulture, men whose connection with the gentle art has brought them great pecuniary gain, and who would naturally be expected to give some fitting support to a fund instituted for the relief of the orphans of their less fortunate brethren.

Will you please allow me to take advantage of the opportunity now afforded to ask you to give publicity to the two following suggestions, both of which have in view the much-to-be-desired object of increasing the fund's finances. And Coronation Year (as this is) furnishes an appropriate occasion for doing something to bring in funds. As is well known, Her Majesty the Queen, one of the patronesses, is passionately fond of the Rose. Anyone who has been to Sandringham and seen the extensive plantings there will know this. At every Rose show, then, throughout the United Kingdom this year let a collection be made in aid of the Gardeners' Orphan Fund; and, further, if the committee of the various Rose societies would also set aside for this benevolent purpose a portion of the profits from their receipts a good sum would be thus ensured; that from the National in the famous Temple Gardens show next July should prove substantial.

As to the second suggestion, I much regret that the concert scheme of assistance—a valuable asset in times past—should have practically died out.

Now is the season for smoking concerts, and about this form of concert there is not that formality and stiffness which we usually associate with the concert pure and simple, therefore the former entertainment more directly appeals for hearty support amongst those who would naturally patronise it.

There are many districts in London and the provinces where smoking concerts might be most successfully held during the present season. Will the Chiswick Gardeners' Association (into which new life has of late been largely infused) set the ball rolling? In former days, Chiswick (until the last year or two the headquarters of the fund) was the pioneer in the concert scheme of assistance.

Quo.

THE BOTHY.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—I have read the correspondence in THE GARDEN of February 22 upon this subject, and think there is a great deal of truth in "S. P.'s" letter. We know that there is always supposed to be a bright side to everything, but I fail to see any bright side to bothy life. "S. P." says they have a woman to do their cooking and cleaning; we are not even so fortunate, we have only a boy, who knows as much about cooking as cooking knows about him. He is allowed one hour to prepare dinner, &c., and if the head gardener sees him about the bothy before the stated time he seems to think that we are robbing our employer of a few minutes. I myself do not hold with time being wasted in a bothy or elsewhere, but I do think that many head gardeners show a want of thought and feeling with respect to the comfort of the bothy inmates. One would think they had never been in a bothy when they were younger men, or they would show a little more feeling for others. I know many head gardeners have not very satisfactory positions, and cannot do all they would like for the comfort of men in the bothy, but I do think in some instances they are much to blame.

We make complaints to them, but do they make them to headquarters? Head gardeners like to have trustworthy and steady men in the gardens, but do they go the right way to keep them so? I think if they were to add a little more to the comforts of the bothy young gardeners would

probably spend their time there instead of elsewhere. Beds, so far as my experience goes, could be greatly improved, for not one bothy that I have been in has there been a comfortable bed. I suppose this is to prevent the men being late in the morning. I know many young fellows are careless with things in the bothy, but the average young gardener is careful and tries to take care of things. One good feature of bothy life is that it teaches young men to be careful when they get homes of their own.

Cheshire.

C. J. H.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—Some typical letters on this subject in a recent issue deserve thoughtful perusal by reason of the very intimate acquaintance of the writers with their subject. Matters were not all rosy or up-to-date even in the French gardening establishment referred to. If bothy matters in this particularly well-kept French establishment left much to be desired, coming nearer home have we a better and brighter picture to elicit our highest admiration? Certainly not. Speaking generally, I well know there are some notable exceptions, yet the bothies in many an English garden of repute are not fair to see. In how few bothies scattered throughout the country do we see even a fair horticultural library? And yet one would think—to take up one of many points—that from the employer's point of view alone, it (the library) would form a very essential portion of bothy equipment. Unfortunately, some of the best books on gardening that should be in the hands and deeply engraved on the minds of the young gardener are, by reason of their necessarily high price, prohibitive.

True, we have a good and cheap weekly horticultural press, but the gardener of ambition takes higher flights, and he must become acquainted with the theory and practice as described by the ablest horticultural authors of the day. A hint from the head gardener to his employer occasionally as to this very important matter of literature would often produce the much-to-be-desired results. The tactful and kindly intervention of the head gardener is much wanted in many gardens and in many ways to make bothy life a more endurable and desirable state of existence.

Quo.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—In common with agricultural workmen, young gardeners in the majority of places are lodged in bothies. In modern or large places these structures are generally all that could be desired, others again have just the bare necessities of civilisation, and some there are which would not pass by a long way the requirements of the sanitary officer or county council.

Different employers have their own distinct ideas relating to the housing of their dependents; some there are who take a just pride in the comfort of their servants, from the highest paid official down to the humblest, but there are yet a great many cases where the proprietor thinks his duty is done when the gardeners' houses are made wind and water tight. Legally and morally a gardener has just as much right to have his house made comfortable and sanitary as any other worker. The comparative short tenure of the occupants, and the fact of their abodes being situated often a long way off the beaten track of any public inspector, is no excuse whatever for allowing such places to fall behind the times.

I should not care to advocate the whole programme mapped out by the Editor in the issue of February 1, and I think it would be a mistake to pamper the young men's tastes too far, but there might be a certain standard of comfort insisted on in every bothy in the land.

Assuming, therefore, that the building itself is suitable, the next most important point is eating and sleeping. I do not think it is at all necessary to have separate bedrooms, but there should be separate beds for each. In large places it is almost necessary to have some woman to cook, but in

smaller places this would hardly be practicable, and some of the men themselves ought to be told off and allowed time for that purpose. Washing and mending are usually seen to and paid for by the men themselves; that is, their own clothes; bed-clothes and towels are, as a rule, provided and kept clean for them. A bathroom would be regarded as a comfort by many, and would be a most useful appliance in any house, and where water could be introduced would not be much expense.

One other item is the making provision for the young gardener's mental improvement. This would be a very inexpensive matter; a few standard works on gardening, along with the current gardening papers and pictorial magazines, which have been read and passed round, would make a good store from which they could derive much knowledge as well as entertainment. The young gardener who means business has always a good store of books of his own, and uses them, too, while there are some who seek the assistance of the head gardener in their studies, which should be readily given; but nowadays, in the majority of cases, the young men prefer the gardener to keep away from the bothy as much as possible, and like best to get his advice and instructions in working hours.

There is the other side of this matter to consider. Would those for whose comfort all this was being done appreciate and value the efforts made on their behalf? In some cases they would, in others they would not; there are so many different types of men, that it is sometimes a puzzle to know what their ideas are about other people's property. They will smash windows and think nothing of it, chairs and crockery sharing the same fate.

I have lived in and seen a good many bothies, and I have come to the conclusion that men can make their bothies comfortable or the reverse as they have a mind. I have been in a room having an earthen floor, with its whitewashed fireplace, its neatly-made beds, and well-filled bookcase, look far more inviting than its more pretentious neighbour with the wooden floor and lofty ceiling.

J. M. B.

PRUNING YOUNG APPLE TREES.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—A few weeks ago there appeared in THE GARDEN several letters anent the pruning and non-pruning of young newly-planted Apple trees, and as the time is now getting somewhat late in the season for this kind of work I would strongly advise that some amount of shortening of the young shoots be practised where such trees remain untouched. I am no advocate for hard severe pruning, but from many years experience and close observations in the rearing of young, fruitful trees, I am well satisfied that the let-alone system is wrong. Some years ago I tried the two methods on trees growing side by side, and on those which were left unpruned the shoots roped themselves with flower buds and made no growth, with the exception of a few leaves, neither did the wood thicken, and after two summers I was obliged to shorten them back. Those trees which were shortened the first year made a moderate growth, and the following year grew away freely. I again tried the same way, with exactly the same results, a few years later. There are two or three items in connexion with young, late-planted trees which should not be overlooked, namely, never plant a tree when the roots are dry. It is by far the best and safest plan when trees arrive in a dry state to thoroughly soak them, both tops and roots, in water some hours previous to planting them, and, again, every care should be taken to prevent the roots from getting dry; a good mulch and watering in dry weather will be of the greatest help possible. I have known trees to be looking well and all at once die outright, owing to the roots having got into a dry state. In pruning young trees first select the required number of the best-placed shoots to form the future head—from three to five is about the usual quantity—and then cut them back to 12 inches, a little more or less according to their strength, and always just above a prominent outside end. After the foundation of

the tree is laid less pruning is required when there is plenty of head room for extension. In the case of bush trees, I often think when the trees are strong and unfruitful the pruning is done in a great measure at the wrong end—instead of using the knife to keep the head within bounds the spade is the implement which should be brought into force. This will at once check the strong growth and make the trees fruitful.

H. MARKHAM.

Wrotham Park, Middlesex.

THE SPRUCE FIR.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—As to the Scotch Fir I entirely agree, but how you can recommend people to plant the Spruce I cannot conceive. Short-lived, dull in foliage, and almost useless for timber, I should say that there are at least twenty varieties of Firs in every way superior to it. Here the Douglas—I must own my favourite Fir—is already higher than the tallest Spruce, and shows no sign of having come to its limit, while I am sure that there is none over forty five years of age, while the Spruces are, many of them, over one hundred. I must say, too, that in my opinion there is a place for bold groups and a place for individual shrubs. No one has space or money to afford to have masses of the innumerable beautiful flowering shrubs that we have, nor are all of them fit for such a purpose. I think there should be many beds where shrubs are able to show their beauty without being crowded, and from which they can be moved at any time if it seems desirable to do so.

Cranbrook.

MEDWAY.

[We think our correspondent is describing the Spruce at its worst. When planted in other than the place it likes, it is indeed a wretched object, as on dry or hilly ground; but a mass of common Spruce in a cool alluvial bottom is a picture of well-being, and no one can deny their majestic beauty on alpine hillsides. The Douglas Fir must still be regarded as an experiment. It is a grand and quick-growing tree in the young state, but there is not as yet a single old Douglas Fir in England, and there are some among our botanical experts who are yet in doubt whether, for all its young vigour, it will be a lasting tree for our country.—Eos.]

THE INDOOR GARDEN.

STOVE PLANTS.

BIGNONIA.

THE propagation of this plant, whose general culture was described in THE GARDEN of March 1, is best effected by means of cuttings. These should be taken off in spring, choosing strong, short-jointed shoots if possible. If placed in a frame or under a bell-glass in the stove they will usually root easily; this, however, takes several weeks, and care must be taken that the case or bell-glass is not kept too moist or the cuttings will be liable to damp off. A precaution that many fail to observe when attempting to strike cuttings of plants is to daily, and first thing in the morning, remove the moisture that accumulates during the night with a cloth. If this is not done the moisture falls upon the cuttings and the soil, making the latter sour and sodden, and causing the former to decay. This precaution it is doubly necessary to observe in the case of plants which take some considerable time to root, as, for instance, the Bignonias. Some of the best sorts worthy of cultivation are *Bignonia Cherere* (orange), *radicans* (reddish), *speciosa* (pink, marked with purple), *variabilis* (white and greenish



THE NEW HYBRID IRISES IN MR. CAPARNE'S GARDEN AT ROHAIS, GUERNSEY.

yellow), *magnifica* (varying mauve to purplish crimson), and *floribunda* (purplish).

BILLBERGIA.

Few natural orders, so far as stove plants are concerned, are more neglected than the Bromeliaceae, and the genus *Billbergia* includes several plants that every gardener should grow. *Billbergias* are not difficult to grow, providing their requirements are understood and attended to. They do not need much soil, the smaller the pots are the better, consistent, of course, with a reasonable root run. It is also most essential that the pots in which they are growing should be thoroughly well drained, for the roots of the *Billbergias* are quickly susceptible to an excess of moisture and soon decay. For this reason watering must be done carefully and moderately. It is far better to have these plants somewhat dry than to keep the soil continually moist. Under the latter conditions the plants become flabby and the tips of the leaves show that something is wrong with the rooting medium.

A soil suitable to the culture of *Billbergias* may consist of rough pieces of peat and loam, to which is added a little leaf soil and a good deal of silver sand. I have often referred to the value of this last-named ingredient in the soil of stove plants, and its mechanical effects are doubly valuable in the case of plants impatient of much moisture about their roots. To increase the *Billbergia* is simple. One has merely to remove the suckers that form at the base of the old plant. It is wise to allow the sucker to attain a good size before removing it, for then it will make much quicker progress when no longer dependent upon the parent plant. Neither is any advantage gained in taking the sucker away when small, rather is it a disadvantage, for it grows much more quickly when attached than when removed from the parent. And, as has been said, it will develop more quickly and will run much less risk of failing to establish itself when strong than when small and weak. The sucker requires to be somewhat carefully removed, otherwise it may be broken. The safest plan is to twist it off instead of simply pulling it down as many do. If the twisting is done carefully the suckers will invariably be found to part easily from the old plant. When detached insert them in quite small pots, say, 3-inch, and make them quite firm. Use a similar compost to that previously mentioned. Little will, however, be required. If the pots are plunged in a bed of leaves or some other material giving off a gentle heat, their rooting will be hastened. Give practi-

cally no water until rooted. It is advisable to keep them shaded for a few weeks. Of those worthy of general culture are *Billbergia marmorata*, with blue flowers and large scarlet-coloured bracts, making a pretty display; *B. iridifolia*, whose flowers are red and yellow, tipped with blue; *B. zebrina*, the green leaves marked with bands of grey, the flowers of a greenish tinge; and *B. rosea-marginata*, having rose-coloured bracts and blue flowers.

A. P. H.

NEW ALPINE IRISES.

I SEND a photograph of these Irises which have been blooming freely since the middle of January in a greenhouse. The plants were lifted from the open air at the end of October, pulled to pieces and planted in boxes 2 feet long by 1 foot wide, forty to fifty in a box. These were placed in an unheated house till the end of December, when heat was put on. They immediately responded, and by the end of January many had been cut. The photograph of the crop in this house at that time speaks for itself. In planting, the end bit of rhizome only, having the tuft of leaves, was put in, the old bits being discarded; each of these little tufts gave one, two, three, and as many as six blooms, which are well thrown up above the foliage with a stem of from 6 inches to 10 inches long. They make an attractive show whilst outside frost, hail, and snowstorms reign.

W. I. CAPARNE.

GARDENING OF THE WEEK.

THE FLOWER GARDEN.

EFFECTIVE USE OF ANNUALS.

LAST year, in a short article in THE GARDEN upon "Annuals and their Effective Use," I described a very pretty effect which has been obtained here on more than one occasion by planting a long dry border—150 feet long and 30 feet wide—with blue *Convolvulus*, blue Sweet Peas, a metallic blue-leaved *Tropæolum*, the violet-coloured *Maurandia*, tall *Antirrhinums*, blue *Verbenas*, *Dahlia Rising Sun*, and *Tagetes signata pumila*. I take this opportunity of depicting it again, so that any of my readers who have a similar

border to deal with, and like the idea, may be reminded that the present is an appropriate time for preparing it. In forming it no design is carried out. Hazel sticks to support the climbers are placed in the ground, but not trim. Some of these cone-shaped supports are high, others short, some are wide at the base, others narrow, and none are put very closely together. Plants of the Dahlia Early Sunrise, a splendid early-flowering red dwarf variety, are planted about in groups of threes and fours, the Antirrhinum and blue Verbena in groups of ten or twelve, while the rest of the intervening ground is completely carpeted with the little light-leaved Tagetes. By the middle of June the ground is hidden and the stakes nearly covered, and during the succeeding months, even into November, the border is bright and beautiful. In August and September fresh effect is given it by the Tropaeolum covering its supports, shooting out its long, strong growths, covered with bluish foliage, in all directions through the yellow flowers of the Tagetes. The thousands of Tagetes plants which are necessary for this may now be sown in a cold frame from which, without any previous pricking out, they can be lifted and planted straight into the border in April.

THE CALOCHORTUS

is such an extremely lovely flower that were it difficult to grow it would be well worth taking pains with to enjoy the gorgeous colours of its flowers, but its culture is of the simplest, and therefore the more reason that it should be extensively grown. Most of the species should have been planted before this, but there is a pretty yellow one, *C. flavus*, which never does better than when planted now. The Calochortus likes a sunny, dry border. I prepare the ground for the different groups by mixing rough sand and leaf-mould freely with the existing soil, thus ensuring good drainage, so essential to their success. The best plan is to limit the different groups to a space which can easily be covered by a frame light, so that when wet weather in the early part of the season is experienced they can be protected. Wet ground is very injurious to them. I have a long lean-to frame in a conspicuous part of the flower garden here which, up to this year, has during the winter time been used for propagating, and which in the summer time has been, if not unsightly, at least uninteresting. This year I am altering this by filling it up with good soil and planting it with some of

THE RARER BULBS

to remain permanently. In the winter time they will receive every protection by means of lights and hot-water pipes if necessary, but in the summer and autumn the lights will be removed entirely, and I am looking forward to this particular frame being a source of interest and beauty during the early part of the summer season. Late though it is, I am planting some of all the different sections of Calochortus with the intention of leaving them always in the ground, allowing them to ripen their seed and perpetuate themselves by self-sown seedlings, which, I believe, is after all the best method of culture.

THE BELLADONNA LILY

is another plant that I have in masses in this frame. Tigridias grouped in all their wonderful colours are also here, where they can remain without the fear of winter frosts injuring them.

HUGH A. PETTIGREW.

Castle Gardens, St. Fagans.

INDOOR GARDEN.

STOVE PLANTS.

THE repotting of the general collection of stove plants should be commenced. Crotons in large pots colour best if somewhat restricted at the roots and kept well supplied with manure water. In repotting use an open compost of three-parts fibrous loam and one part leaf-mould, with plenty of charcoal and silver sand, adding a 5-inch potful of steamed bones to every peck of soil. Do not give large shifts, but make the soil firm round the roots, and afford good drainage. These plant

require much atmospheric moisture, and should be well syrioged. Such plants as *Acalyphas*, *Ananassa sativa variegata*, *Strelitzia regina*, and *Hibiscus* require the same compost. *Phrynium variegatum* when properly coloured is a useful stove plant. In repotting, the stools should be divided and placed in pots according to the size of plants required, using a light compost of fibrous loam, leaf-soil, charcoal, and sand.

HELICONIAS AND MARANTAS

may be increased in the same way, using a mixture of one half peat, one quarter loam, and one quarter leaf-soil, adding charcoal and sand. *Aralias*, *Dieffenbachias*, *Dracenas*, and *Franciseas* require the same soil. *Toxicophlea spectabilis* is a most useful sweet-scented plant in the stove, and easily increased by cuttings or layers. The flowers somewhat resemble those of an *Ixora*.

ALOCASIAS.

These should be potted in a compost of peat, a little loam broken into large lumps, with dried sphagnum moss, chopped lumps of charcoal, and silver sand. Fill the pots two-thirds full with clean crocks, keeping the bulbs and soil well raised above the rim of the pots, and finish off with a surfacing of fresh sphagnum moss. They delight in a strong moist heat and a liberal supply of water at the roots, with occasional doses of liquid manure when in active growth. Such useful plants for furnishing as *Panicum variegatum*, *Tradescantias*, and *Lycopodiums* should now be increased.

ALLAMANDAS.

The shoots of these should be tied to wire placed within 9 inches or 10 inches of the glass; they should be exposed to the light as much as possible when in active growth. Cuttings may be taken and placed singly in small pots in a mixture of peat, loam, and sand, and plunged in a propagating frame with a bottom heat of about 80°. Keep them shaded and watered. When the young roots have filled the small pots transfer them into larger ones. Pinch the young shoots once or twice to cause them to throw out laterals, and thus make useful plants in small pots for decoration. *Allamanda robustiflora* should be grafted on some of the more robust-growing varieties. Successional batches of

GLADIOLI, IXIAS,

Sparaxis, *Lilium longiflorum*, and *Spiraeas* should be brought into warmth. Late batches of *Hyacinthus*, *Tulips*, and *Polyanthus* should be given plenty of air and shaded to prolong their flowering season.

JOHN FLEMING.

Wexham Park Gardens, Slough.

THE FRUIT GARDEN.

EARLY MELONS.

PLANTS trained as cordons, as previously advised, should be induced to yield an early supply of fruit by having their leading growths stopped when they reach about 18 inches up the trellis. Thin the laterals by the early stopping of superfluous ones beyond their first leaf in order to prevent the crowding of foliage. Carefully secure the leading shoots and retained laterals to the trellis and tie them loosely. Stop each lateral at one leaf beyond its first female blossom, which fertilise, and either stop sub-laterals or rub them out, as may be necessary. During the flowering time preserve a comparatively dry and buoyant atmosphere, and when three or four fruits upon each plant are properly set and swelling remove all subsequent flowers as they appear. At this stage the ridges of soil should be supplemented by a fresh, previously warmed layer, which will be readily filled with roots, when either top-dress with an approved fertiliser or periodically afford copious supplies of liquid manure. The Melon revels in sunshine, and to enable it to derive full benefit therefrom afford air early and freely at all times when external conditions are favourable. Guard against low temperatures and an excessive amount of atmospheric moisture; these produce flimsy foliage that cannot endure the sun.

LATE PEACH HOUSES.

Training the trees, top-dressing borders, and

similar operations are completed, while the houses will have been kept quite cool. As the trees are commencing to expand their blossoms a change in the treatment will be necessary. It should be first fumigated with XL All to prevent an early attack of aphids, and while the trees are in flower a circulation of air must be maintained. This, associated with a moderately dry atmosphere (although the borders and walks should be syringed each fine afternoon), and tapping the branches of the trees to disturb the pollen, will at this season generally ensure satisfactory fertilisation. Should the weather prove unfavourable, further assistance should be given by the aid of a soft brush. Here, owing to our low situation, we sometimes find artificial heat for this house necessary during March in order to exclude frost; in ordinary cases, however, this is not required. Provided the borders are moist, the trees will be all the better if they are not watered until growth has become active. The disbudding of shoots and thinning of fruit must be proceeded with in due course upon the lines that have been recommended for early houses.

THE ORCHARD HOUSE.

Where a supply of late fruit is the object, the trees until now will have been allowed to progress naturally out of doors, but the condition of their buds now necessitates their being placed under glass. Sunlight and air being essential elements to their satisfactory progress, the glass should be kept perfectly clean, and each tree allowed plenty of space. Avoid, by a liberal circulation of air and by a guarded use of the syringe, the creation of a sluggish, moist state of the atmosphere. When the blossoms are sufficiently advanced fertilise them by the usual artificial means, and discontinue the use of the syringe, resuming its use once the fruit is set. Artificial heat is not desirable, and the Apple, Pear, Plum, and Cherry do not readily respond to forcing, while warmth sufficient to meet the wants of late fruit can be commanded by carefully regulating the ventilators.

T. COOMBER.

The Hendre Gardens, Monmouth.

THE KITCHEN GARDEN.

BOX EDGING.

THE end of the present month is a capital time for replanting this when it becomes too large. Many do so during autumn, but if done speedily at this season just before commencing new growth it will start away freely and cause little trouble. I never favour or advise using Box as a kitchen garden edging for the walks, owing chiefly to the large amount of labour it entails to preserve it in a pleasing condition, as, in addition to keeping it clipped annually and replanting often, it is never safe to use weed killer, this meaning certain death to much of it. Nothing to my mind is so durable and suitable for the purpose as blue Staffordshire edging tiles; they will when properly set in concrete last a lifetime without giving further trouble. Box requires a certain amount of skill and judgment to manage. The levels should first of all be accurately taken, and the lines put down and kept perfectly straight. The old clumps of Box should be pulled to pieces, and the bottom part of the roots should be severed on a block with the hand bill. About 2 inches of root will be ample to leave. As the work proceeds the lower ends should be kept level and placed in boxes or baskets ready for using, and never allow it to become dry. When planting have a little fine soil in readiness to place about the roots for giving a start, and finish off by making very firm. The tops should be trimmed down to the desired height with a sharp pair of shears, and should the weather be dry a few waterings will be necessary.

CAULIFLOWERS

which were sown during last autumn and have been wintered in cold frames may now be safely planted out into their permanent quarters. Lift with good balls and plant firmly, mulch round with a little dry old Mushroom bed manure, and protect the foliage with a few small Spruce, Fir, or Yew branches till they become established, and those which are being hurried forward under

handlights should receive abundance of air on all favourable occasions, both by removing the tops of the lights and elevating the bottoms on bricks. Mulch between the plants with good half-rotten cow manure. Plants in 8-inch pots which have been forced along in fruit houses will now need much feeding. There is nothing better than the drainings from the farmyard, and the most suitable place for them after this date is in cold pits or frames. Excellent Cauliflowers for early supplies may be depended upon when treated in this way if suitable varieties are grown and the plants liberally treated. Prick out good batches of Autumn Giant and Self Protecting Broccoli in skeleton frames and sow more seed of each, likewise Brussels Sprouts on a south border.

PEAS

raised in boxes must not be allowed to become drawn and starved before planting out. Some little care should be exercised in doing this, as much of the ultimate success will depend upon the start the plants receive. The roots should be laid out straight, and if the ground is at all wet and stiff add a little fine dry soil about them. Stake at the same time, and where birds are troublesome netting should be placed over them, which will also act as a preventive against frost.

BROAD BEANS

should also be planted out when about 3 inches high. Further sowings of both these crops should be made every ten days at this season.

CARROTS.

Make a good sowing on a south border of Early Horn and Intermediate for early supplies.

E. BECKETT.

Aldenharn House Gardens, Elstree, Herts.

EDITORS' TABLE.

IRIS RETICULATA MAJOR.

Messrs. Kelway and Sons, Langport, Somerset, send flowers of this beautiful Iris, which is quite distinct from the species, being larger, and with all the attributes that make the ordinary Netted Iris so precious. No flower of this season is more fascinating than the major form of *I. reticulata*.

VIOLETS FROM DEVONSHIRE.

Mr. Weguelin sends from Dawlish several varieties of Violets, including Marie Louise, De Parme, Luxonne, a beautiful deep blue large flowered single Violet; La France, another single of wonderful colour and very fragrant; Princess of Wales, which is too well known to describe; Mrs. J. Astor, a reddish-flowered double variety, and Admiral Avellan, reddish purple also, single, but we prefer the full blue Violets to those with any red in their colouring.

CATTLEYA TRIANE.

A flower of a beautiful variety of *Cattleya Triane* comes to us from Mr. Baxter, the Gardens, Henley Park, Guildford. It is large and wonderfully bright in colour, the lip rose-purple, and the broad petals of a softer shade, with a suffusion of brighter colouring towards the apex. This colouring is distinctive.

BOOKS.

Plain Practical Hints on Growing Carnations and Picotees.*—This

seems a useful pamphlet about Carnation and Picotee culture. It is severely "plain and practical," but none the worse for that, and can be considered an excellent little guide for a beginner. The author has had the advantage of Mr. Robert Sydenham's wide experience of these flowers, and Mr. Sydenham contributed the article on layering.

* "Plain Practical Hints on Growing Carnations and Picotees." By Arthur J. Cook. Printed and published by the Imperial Press, Upper Norwood, London, S.E. Price sixpence.

THE FRUIT GARDEN.

THE COB NUT AND FILBERT.

CULTURAL details may be interesting at this season, as in many gardens the Cob Nut and Filbert are much valued, whilst in others they are left to chance, and the result is a forest of shoots and poor crops. February is a good time to prune the trees, and we see what splendid results are secured in Kent and other counties by close pruning; indeed, in many places the Nut is profitable, although the trees often grow in soil in which other things fail to thrive. There are many varieties on the Continent that are not known or grown in this country. I am not advocating their culture, as we have some very good varieties to select from. It is not too late to plant Filberts at this season of the year, but there must be no delay, as the Nut is one of the earliest trees to start into growth, so that is why I advise planting early in the winter. Prune in February, as then a number of catkins may be saved, as it is important to have male catkins to effect fertilisation.

I have previously referred to the Filbert succeeding in poor land, I mean dry or thin stony soil, but they must not be planted on cold, wet, heavy clay. Although the growth is free enough, it will most likely be gross and barren. As regards position, I do not think this is of so much importance as the distance between and size of the trees. There should be no crowding, and there is less danger of this if pruned annually, especially if the trees are grown on a single leg or stem. I have never seen better results than in the Kent orchards. Here a regular system is adopted. The trees are rarely more than 5 feet to 6 feet in height, and often less, having a stem of 12 inches to 18 inches; this keeps the bottom branches clear of the soil. The trees are pruned so that a limited number of branches or leaders form the head, the centre of the tree being kept open. In private gardens trees pruned thus are not common, and yet one occasionally sees heavy crops. On the other hand, there would be better returns if they were not planted so close together.

Sucker growths rob the parent trees, and should not be allowed. I am aware many growers propagate from suckers; indeed, in Kent this is often done, but I think in gardens of limited size it is best to rely on layers, as the last-named are better in every way; they do not throw up suckers so freely, and the Nuts have the true flavour. Trees from seed, even when selected from the best varieties, do not always come true; indeed, rarely resemble the original, although such trees are good for covert and for the production of Hazel stakes and other purposes.

Many years ago I had some very fine Nuts from Spain, and these were sown with the idea that they would be worth special cultivation, but though they made splendid trees the fruits were much inferior to the Filbert or Kent Cob. This shows one cannot depend on the seed for garden stock. On the other hand, there is no difficulty in getting plants true to name, as these are raised from layers. It is a good plan to grow pruned trees at distances of 10 feet apart, and trust to lateral growths from the main branches or leaders; laterals are produced freely yearly, and at pruning time may be shortened

back close to the stem. Grown thus the leaders or branches are covered with lateral shoots, and from these the fruits are obtained.

Cultivated trees well repay food in the shape of manure. A dressing of it should be given at this season. As the trees root near the surface the food is soon absorbed. Of the Cob Nuts, the true Kent Cob is one of the best, and I do not know of any variety that keeps sound such a long time. This is the variety Messrs. Bunyard, Maidstone, tell me is the most profitable variety grown, being a certain bearer and much liked in the market. There is another, the Atlas Cob, a larger Nut than the Kent, but not so prolific. I have not, however, grown this variety. Webb's Prize Cob is valuable for general culture. The Castor is a valuable Nut, as it produces catkins so freely, and planted with others assists in setting the flowers. The same remarks apply to a very useful small-growing variety, Pearson's Prolific, a remarkably free bearer, and the Red Filbert is noted for its splendid flavour; it is also a good cropper. The Kent Filbert, though excellent in quality, should have a well-drained soil and a sheltered position. The White Filbert is plentiful, and much liked by many; the skin is not so thick as the seed. There is a very fine Filbert, the Prolific Filbert, recently given an award by the Royal Horticultural Society;



SUPPOSED HYBRID BETWEEN AN APPLE AND A PEAR (NATURAL SIZE).

this is a splendid Nut, and has a pretty husk. G. WYTHES.

APPLE AND PEAR HYBRID.

A FRUIT described as a supposed hybrid between an Apple and a Pear was exhibited before the fruit committee of the Royal Horticultural Society at the last fortnightly meeting, held in the Drill Hall, Buckingham Gate, and created a good deal of interest. The accompanying illustration will give a good idea of the appearance of the fruit, which in general shape more resembles a Pear than an Apple, although the flavour is distinctly that of the latter. The shoots again are much like those of the Pear. Mr. John Ward, Shobdon, R.S.O., Hereford, who sent the fruits to the Royal Horticultural Society's meeting, writes us that "they are the result of an incomplete experiment by a deceased hybridist. The tree is now added to my collection of more than two hundred hardy fruit novelties. To anyone interested in the hybridisation of fruits, I would be pleased to show my collection, which includes most of Luther Burbank's latest productions."

ROYAL HORTICULTURAL SOCIETY AND THE PROPOSED HALL.

RETIREMENT OF TWO MEMBERS OF THE COUNCIL.

WE understand that Mr. Bennett-Poë and Mr. C. E. Shea retired from the council of the Royal Horticultural Society ultimately in consequence of the rejection by the council by six to five of the following amendment to the motion for the adoption of the report of the Hall committee:

"That it be referred to a committee of the council, with Baron Schröder, to consider and report as to the approximate cost of the erection of a sufficient hall and offices for the purposes of the society, the committee having power to consult expert advisers."

We heartily agree with this resolution. One would have imagined that it was a reasonable, indeed necessary, preliminary to the adoption of a scheme certain to involve the society in very large liabilities to ascertain roughly what those liabilities were likely to amount to.

This important matter should also have been referred to the whole body of Fellows throughout the country under bye-law 46. The scheme contains no provision to safeguard the accumulated "reserve" in the case of insufficient subscriptions.

Unfortunately, through the custom of going to press on Wednesday, instead as heretofore on Thursday, we could make no comment on this scheme in our last issue, but we have consistently expressed the opinion that the financial aspect of the Hall question is a serious one, and without mature deliberation and careful forethought will land the society into a possible future bankruptcy.

SOCIETIES.

NATIONAL AMATEUR GARDENERS' ASSOCIATION.

WE have received the report for 1901 and syllabus and list of special prizes for 1902. The number of members is less than in previous years, but this is not due to lack of interest in the aims and objects of the association, but to the increased subscription inaugurated last year. The balance sheet submitted is not quite so satisfactory as could be wished. The adverse balance is due in a large measure to your executive having to take extraordinary steps to place the association on a firmer business footing than it has occupied for some years past. The expense incurred in sending out the necessary circulars has been a serious tax on the financial resources of the association. The monthly exhibitions were a great improvement over all past ones, both numerically and florally; the lectures delivered constituted an important feature of the year's work. The following lectures are announced for 1902. April 1, "Sweet Peas," by D. B. Crane; May 6, "Soils and Plant Foods," by W. Dyke; June 3, "Beautiful Flowering Trees and Shrubs," by George Gordon, V.M.H.; July 1, "Conversazione," August 12, "Bulbs and How to Grow Them," by G. M. Gross; September 2, "How Plants Grow and Feed," by T. W. Sanders, F.L.S.; October 7, "The Lily Family," by S. Hillman; November 11, "Fruits for Small Gardens," by A. Iggulden; December 2, "Gardens of the Riviera," by H. H. Thomas; January 3, 1903, "Vegetables," by G. Hobday; February 3, Annual General Meeting.

KINGSTON CHRYSANTHEMUM SOCIETY.

At the annual meeting of the subscribers, held in Kingston on the 4th inst., the secretary reported that owing to the dense fogs which prevailed on the last show days, severely limiting the attendance, there was a deficiency financially of some £17 on the year's working. It was agreed, not only that the show days be Wednesday and Thursday, November 12 and 13 next, but also that the show be held in the warm and very pleasing St. James's Hall, the lesser area being met by a moderate reduction in the number of classes in the schedule. In that way not only would a considerable saving be effected, but a far prettier show would be produced, and such as could be seen in the greatest comfort. As Sir J. Whittaker Ellis, Bart., the late president, had left the district, it was agreed to invite T. Skewes-Cox, Esq.,

M.P., to fill the office. Mr. W. J. Wells was re-elected to the office of chairman; Mr. A. Dean, vice-chairman; Mr. W. Hayward, secretary; and Mr. A. W. Homershaw, J.P., as treasurer. Several vacancies on the committee were filled.

SEVENOAKS GARDENERS' SOCIETY.

At the Oddfellows' Hall recently Mr. H. Cannell, of Swanley, gave a capital lecture on the history of the Chrysanthemum since its introduction to this country, and as this is a popular subject in the neighbourhood it was thought by the executive of the Sevenoaks Gardeners' Society that it might prove an attraction to others than its members. They therefore decided to invite friends, with the result that the room was filled with a large and appreciative audience. This now popular flower, Mr. Cannell said, would hardly be recognised as resulting from the first Chrysanthemums that were introduced something over 100 years ago, which were simply a counterpart of the common Ox-eye Daisy or Marguerite. A hearty vote of thanks was passed to Mr. Cannell for his able lecture.

Some grand exhibits were placed on the tables, the judges' awards being as follows: First-class certificates to Mr. Huxley, for three Cyclamens; Mr. Huntley, for Primulas; Mr. Westcott, stand of cut blooms; very highly commended, Messrs. Prowse, Cowper, and Stevens, for collection of vegetables, Hyacinths, and Calanthe Veitchii respectively.

EAST ANGLIAN HORTICULTURAL SOCIETY.

A LARGE gathering of members assembled at the March meeting of this progressive club, when Mr. T. B. Field, gardener to Baroness Berners, Ashwellthorpe Hall, Norfolk, read a most interesting paper upon "The Rose." He referred to its early history, the numerous varieties, and their natural habits, and the forerunners of the work of the latter-day hybridists were also specified. Some of the most useful of our garden Roses were notified. Where to plant, how to plant, when and how to prune were also described, as were also the methods of propagation by cuttings and budding upon various stocks. The subject was listened to with much attention, and the discussion which followed was well maintained. A vote of thanks was unanimously accorded to Mr. Field for his paper. Mr. G. James, gardener to Mr. E. T. Boardman, Town Close, brought up a large spray of that interesting plant, *Eryophyllum calycium*, grown by Dr. Beverley, which, with the remarks upon it, evoked much interest. There was a good display of cut flowers and pot plants, Cinerarias being the strongest class.

WINDSOR, ETON, AND DISTRICT ROSE AND HORTICULTURAL SOCIETY.

WE have received from Mr. J. F. Hoddinott, Bank House, Windsor, honorary treasurer of the above society, the schedule of the forthcoming exhibition to be held in the Fellows' Eton College, on Saturday, June 28. The Queen's Cup, presented by her late Majesty Queen Victoria, value ten guineas, is offered, together with money prizes for the best forty-eight distinct single trusses. If won by the same competitor for three years the cup becomes his property. The Windsor Cup, for eighteen distinct (open to amateurs within ten miles of Windsor), and the Duchess of Sutherland's cup in the local class for the best display of cut Roses are also offered in addition to the usual prizes. The annual report, read by Mr. Hoddinott at the general meeting in November last, contains the following remarks: "To this society her late Majesty was ever a most munificent supporter and friend. It was to her patronage and continued countenance that this society—to a very large extent—owes its present splendid position and prosperity. It was in the year 1895 that her late Majesty first granted the great favour of holding our show within the private grounds of Windsor Castle, and this gracious permission has been continued for six successive years, a favour which I am sure every member of our society has much appreciated. Your hon. treasurer then approached her late Majesty for some pecuniary assistance, to which she at once responded by becoming a liberal subscriber to our funds, and, later on, allowed a beautiful challenge cup to be given in her name. This last act has brought to our shows most of the great rosarians of England, Scotland, Ireland, and Wales in competition for it, and at once raised our society from a small local position to one of importance."

LIVERPOOL HORTICULTURAL ASSOCIATION.

THE last meeting of the present session of the above was held on Saturday last at the society's office, Liverpool. Mr. T. Foster occupied the chair, and the subject for consideration was "Hardy Border Flowers," by Mr. J. Benson, which was dealt with in an attractive and comprehensive manner. Trees, shrubs, herbaceous plants, and annuals were mentioned, with some details as to planting and grouping, preparation of the beds or borders, selections and the value as decorative plants and for house decoration. A discussion followed, in which Messrs. R. G. Waterman, Joseph Stoney, John Stoney, J. Skitt, J. Mercer, and the chairman took part, after which the thanks of the meeting were tendered to the lecturer and chairman for their services.

UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.

THE usual monthly committee meeting of this society was held at the Caledonian Hall on Monday, the 10th inst. Mr. C. H. Curtis presided. The minutes of the last meeting were read and signed. Seven new members were elected, and two others nominated. Ten members were reported on the sick fund, the amount of sick pay paid out for the month being £33 12s. The sum of 30s. was granted to a sick member from the convalescent fund. The decision of the committee at the last meeting was upheld in the case of a member who

wished to be reinstated. The death of two members, viz., Mr. John Fahey and Mr. James Tegg was reported, and cheques were drawn for the amounts standing to their credit in the ledger, being £32 1s. 1d. and £72 7s. 1d. respectively. The best thanks of the committee was accorded to Mr. George Gordon for his excellent article in the issue of the *Gardeners' Magazine* of March 8. It was decided to obtain 3,000 copies of the article, and send them out with annual report and balance-sheet. The treasurer was allowed to have a bank draft of £100 to meet current liabilities. The secretary was granted £5 as office rent for the current year. A hearty vote of thanks was given to the chairman and vice-chairman for their services for the past year, and at a subsequent meeting they were unanimously re-elected for the ensuing year.

SHEFFIELD CHRYSANTHEMUM SOCIETY.

THE monthly meeting was held on the 12th inst., the exhibits being pots of bulbs from both professionals and amateurs, and some excellent examples of Hyacinths, Narcissus, Lilies, Tulips, and Daffodils were staged, Mr. C. Scott taking first prize, Mr. Lucas second, and Mr. Marsden third in the professional class; Mr. W. Marsden first, Mr. S. T. Binton second, and Mr. Willeford third in the amateurs. The essay for the evening was on the different varieties of climbing plants by Mr. Cook of Rotherham, who treated his subject in a masterly manner, dealing with all kinds of climbers, flowers, fruits, and vegetables, their various methods of climbing, and the different objects they attach themselves to. *Jasminum nudiflorum*, which requires a somewhat sheltered position, the *Wistaria*, *Ampelopsis Veitchii*, *Crateagus Pyracantha*, with its bright scarlet berries, and the *Clematis* were especially dealt with. Of the latter there are five types, three of which bloom on old ripened wood. He also dealt with Ivies and their aptitude for covering bare spaces, the Vine as grown out of doors in Southern Europe, the Hop, climbing Roses, and completed his remarks by referring to vegetable climbers. An interesting discussion was followed by a hearty vote of thanks to the lecturer.

GARDENERS' ROYAL BENEVOLENT INSTITUTION.

PERHAPS the largest muster of gardeners ever held in the city of Liverpool was that which assembled at the City Hall on the 12th inst. A local committee, of which Mr. C. A. Young was elected chairman, has been most successful in obtaining the co-operation of the gardeners throughout the district, who supported them to the number of 300. Mr. Harry J. Veitch and Mr. George J. Ingram, treasurer and secretary of the institution respectively, had willingly accepted the invitation of the local committee to be present and explain the objects of the society. Mr. R. J. Harvey Gibson, M.A., F.L.S., Professor of Botany at Liverpool College, occupied the chair, and the leading members of the trade and others were present to show their interest in the project. On the chairman calling upon Mr. Harry J. Veitch to address them he was accorded a very warm reception, and then gave an admirable address upon the object of the institution, with some details of its history. The patronage accorded it by her late Majesty Queen Victoria has since been extended by King Edward and Queen Alexandra. Some account was given as to the amount of money expended and of those who had been recipients of the benevolence of the institution. An appeal was made to those present to become life members or annual subscribers. In many other ways it also pointed out how help could be given. At the conclusion of an excellent address the speaker was heartily applauded. Mr. R. W. Ker moved and Mr. R. Todd seconded and Mr. George J. Ingram supported that this meeting having heard Mr. Veitch describe the aims of the institution, hereby pledges itself to further these and its best interests. This was carried with applause. On the motion of Mr. H. Middlehurst, seconded by Mr. R. G. Waterman, the thanks of the meetings with musical honours were accorded to the delegates of the institution. Further thanks were tendered to Mr. Holmes, Ulverston, the Liverpool Horticultural Association, Mr. T. Foster, chairman, and Messrs. Blake and Mackenzie for doing the printing free of cost, to the musical artists, and those friends who had contributed to the floral display. This was carried by acclamation, and a similar compliment was passed to the chairman. Several donations and new subscribers and one life member were announced. The result will certainly prove most gratifying to the committee, of benefit to the funds of the institution, and highly creditable to the committee who have worked throughout with praiseworthy zeal. The other officers were: Mr. E. Ker, vice-chairman, Mr. A. J. Crippin, treasurer, and Mr. R. G. Waterman, secretary.

ROYAL HORTICULTURAL SOCIETY.

ORCHIDS CERTIFICATED, MARCH 11.

Laelia digbyana-purpurata var. *King Edward VII.*—This new hybrid *Laelia* has a remarkably fine lip of enormous size. The interior is almost white, and surrounded by a broad band of shades of rose veined with rose-purple. The edges are beautifully frilled also. The sepals and petals are somewhat loosely disposed, the upper sepal falling over the lip. The parents are *L. digbyana* and *L. purpurata*. From Messrs. James Veitch and Son, Limited, Chelsea. First-class certificate.

Dendrobium Euryalus Apollo album.—A very distinct flower, the sepals and petals white, the centre of the lip being rich crimson-brown. The plant exhibited was flowering very freely. From Mr. Cypher, Orchid grower, Cheltenham. Award of merit.

Lelilio-Cattleya purpurata × *schilleriana* var. *Whateleyi*.—This hybrid has been exhibited before, but not certificated. This form was thought so highly of by the committee that they recommended an award of merit. The flower is of good size, the lip of a rich velvety purple, and the sepals and petals deep rose. Exhibited by Harry Whateley, Esq., Prior Lawn, Kenilworth (gardener, Mr. Cook).

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[MARCH 29, 1902

A NEW HALL FOR THE ROYAL HORTICULTURAL SOCIETY.

ONE of the most memorable meetings ever held in connexion with the Royal Horticultural Society took place in the Drill Hall, James Street, on Friday afternoon, the 21st inst., to determine in what form the centenary, which occurs in 1904, should be celebrated. There was a large attendance of those Fellows who take more than a passive interest in a great association, and not in recent years at any rate has so earnest a feeling prevailed to do the right thing in commemorating an auspicious event. The president, Sir Trevor Lawrence, Bart., as our report (page 215) shows, was supported by most of the council, and among others by Sir W. T. Thiselton-Dyer, Sir Michael Foster, M.P., and the Dean of Rochester, and this meeting was convened to settle definitely whether a new garden or a new hall would be the wiser memorial of the event.

"The policy of the existing council is to endeavour to secure, first, a suitable hall and offices near those now occupied at Westminster, and, when that is done, to devote their attention at once to the acquisition of a site for a new garden." This is placed on record in *THE GARDEN* of March 15.

Unfortunately, a serious division occurred in the council as to the way the matter was being considered, with the result that Mr. Bennett-Poë and Mr. C. E. Shea resigned. We are sorry to know that the council has no longer the benefit of their advice, for both are deeply interested in horticulture, and have long worked earnestly for the good of the society.

But the meeting was determined that the question of the hall should be finally settled, and the result was decisive. The meeting, with few exceptions, voted for a new home for the society, and the site approved of by the committee and Baron Schröder was considered in every way suitable, being placed about four hundred yards from the Drill Hall and in an improving neighbourhood. As the report in *THE GARDEN* of March 15 says, the site "is in Vincent Square, at the corner of Bell Street. It has an area of 17,565 square feet, and the rent asked is £690 a year for a lease of 999 years." The New Hall Committee recommended this position, and the resolution was passed.

We have consistently urged that the council should exercise caution in embarking on any scheme likely to place a heavy burden upon the society in the days to come, when perhaps there will not be the same extraordinary applications for fellowship as during the present era in its history, and this was one of the contentions of those who differed from the council. The reserve fund is too small; in truth, utterly inadequate for any such scheme as the erection of a hall and offices worthy of a splendid organisation, but it is satisfactory to know that this reserve fund will not be interfered with, unless such a course becomes absolutely necessary. And why was the meeting so hopeful about the future? For the good reason that Baron Schröder has made himself practically responsible for the site already decided upon, and has contributed £5,000 towards the fund. Sir Trevor Lawrence read a letter from the Baron, who was, unfortunately through ill-health, unable to be present, in which he stated his intense interest in the scheme, and several speakers, including Sir Michael Foster and Sir W. T. Thiselton-Dyer strenuously urged that the opportunity be not allowed to slip by of getting this home, so necessary and so excellent a memorial of the centenary of the society. It has been looked forward to for many years, so let the matter be settled once and for all, and settled it was most emphatically, with the promise that the question of a new garden should be considered immediately the hall was erected and started as a going concern.

We hope the fears we entertain as to the possible future financial troubles will not be realised. We have our misgivings. It rests practically with the meeting of Friday to find the funds for the hall and its offices, and support Baron Schröder and the three donors of £1,000 each—Mr. H. J. Elwes, Mr. Sutton, and Mr. Sherwood—in building a hall worthy of the society and its splendid traditions, not a building to be ashamed of, but architecturally a delight, and with an interior so arranged and so decorated that it may be declared of this hall, "It is a model for all nations."

The meeting has declared for a new hall. Let it then be worthy of the society; but we shall ever strive in the future to gain a garden for the society wherein experiments may be conducted and a school of horticulture founded. We are mindful of the good work that has been accomplished at Chiswick under Mr. A. F. Barron and Mr. Wright. Although a hall was the means decided on at

the meeting on Friday, several speakers—Sir Michael Foster, the Dean of Rochester, and others—regarded the question of a garden as claiming the earnest attention of the Fellows.

A plan is given on page 216 indicating the site of the new hall. All that now remains is for the meeting to give practical expression to its wishes and subscribe liberally that the hall be no commonplace erection unworthy of so national an organisation as the Royal Horticultural Society, the centre of horticultural work and progress in the British Empire.

We have avoided anything tending to controversy on the present occasion, much as we believe in those who differed from the meeting generally, for the simple reason that as so serious an undertaking has been entered upon, it is far from our wish to hamper the great work the council and a section of the Fellows have undertaken to carry out, we hope sincerely, to a most successful issue. The council has our hearty co-operation.

The present position of affairs is roughly as follows:

(1.) The President said at the meeting that about £25,000 would be required, call it £30,000, as no building to our knowledge has cost less than the *estimated* outlay.

(2.) Eight thousand pounds have been promised, leaving £17,000 to be raised, or, taking the cost as £30,000, then £22,000. Therefore a splendid opportunity is given to those who voted for the hall to show their practical interest in the scheme. We hope, as the council has been guided by the wishes of the majority of the Fellows present at the meetings that have been held, that the amount will be quickly forthcoming.

EDITORS' TABLE.

THE WHITE TUSSILAGO.

Mr. Field, The Gardens, Ashwellthorpe Hall Gardens, Norwich, sends flowers of the White Tussilago, a quiet pretty colour, not exactly dead white, but with a trace of grey. Mr. Field writes: "I am sending flowers of the white variety of Tussilago; it is not quite so sweet as T. fragrans, but very pretty and useful. I have a large clump under the shade of some Horse Chestnut trees, and it has a very pretty effect amongst the little Winter Aconite, Primroses, and other flowers. The White Tussilago is well worth growing where white flowers are in demand."

CHIONODONX LUCILLE (GLORY OF THE SNOW).

I am sending for your table flowers of this interesting and charming plant. I was looking round a neighbour's garden and came across a bed 6 feet long and 3 feet wide, one mass of bloom, a

sight not soon to be forgotten. This delightful bulb can be easily grown by anyone with a garden, however small. It is quite at home either in the rock garden or in the border, increases rapidly, and delights in a light soil. The bulbs should be planted in the autumn about 2 inches deep.

IMANTOPHYLLUM MINIATUM.

I am also sending spikes of *Imantophyllum miniatum*. This is a plant for the amateur, as it is easy to grow. The plants from which these spikes were taken are in a cool vinery, and they remain in the same house all the year round. I divide and repot every third year, using rough loam, a little leaf-mould, and a few lumps of charcoal to keep the soil sweet. Give plenty of water when the plants are growing and manure water when the spikes first make their appearance. Sponge the leaves occasionally to keep the plants clean; the result will be from twelve to fifteen spikes from plants grown in 10-inch or 12-inch pots.—T. B. FIELD, *Ashwellthorpe Hall Gardens, Norwich*.

A charming gathering for the table. The *Imantophyllum* spikes were superb for size and colour.

LAW.

BREACH OF AGREEMENT.

AT Yarmouth County Court on Thursday last, His Honour Judge Wilmot heard an interesting action brought by William Hales, market gardener, Flegg Burgh, against John and Elizabeth Parker, who were his tenants of land at Burgh St. Margaret and Billockby, to recover damages for breach of an agreement. Mr. P. Wiltshire appeared for the plaintiff, and Mr. G. H. L. Blake for defendants.

Defendants had occupied the land from 1891, but the latest agreement was dated October 10, 1900, for one year's hire. Under clause 6 defendants were to cultivate, or cause to be cultivated, the land in a good husbandlike manner, according to the custom of the county. Plaintiff alleged that this had not been done, and valuers had assessed the damage at £52, but only £26 was claimed. The land, which had been a well-cultivated garden, plaintiff said was left a wilderness. The garden was planted with fruit trees, canes, Rhubarb, and the usual produce. The canes were left weak and thin, the paths were overgrown, and the Rhubarb was in a part smothered with weeds. Plaintiff produced a big bundle of brambles to give the Court ocular demonstration, and His Honour said it looked something like Christmas decorations. Plaintiff said this came from what was a flower garden where roses grew, but now it was covered with Brambles, Stinging Nettles, and Docks. Defendant had to pay no valuation in 1900, and was to have none on going out, but at the conclusion of the Parker tenancy there was valuation for the incoming tenant, which came to £14 14s. 6d. for Beet and Hay left on another part of the land, and from the amount claimed credit was given defendants for this. Plaintiff, a white-haired man of seventy, in cross-examination admitted he lived in the house next the Parkers, and had not made any complaint to them of bad husbandry, and that he would not perhaps have brought the action if Mr. Castle, the valuer employed, had not suggested it.

Mr. Wiltshire said that plaintiff, as an old man, was not aware of his full rights.

Mr. A. B. Castle, a member of the Norfolk Tenant Right Valuers' Association, who made the valuation on October 10 last, said that the garden was the worst place he had ever seen. It was a perfect wilderness. Fritten Woods were well kept in comparison. The paths were covered, and the Box borders had grown into little trees 16 inches high, the grass was up to his knees, the bushes and canes were covered with vines and smothered with weeds, and there was nothing in what he called the old garden which he could value at a single halfpenny. Of 40 dozen bushes that should be worth 4s. to 6s. per dozen, he could only put a small value on 18 dozen. Of 140 rods of canes, only 12 rods would be valued, and they had not been trimmed and cleaned between the rows for three years, the ground resembling marsh rather than a garden. Rhubarb that was foul with grass, weeds, and thistles 18 inches tall he could only value at 1s. 6d. per dozen instead of 3s. 6d. to 4s. The land could not be got clear for quite three years, and he computed two years' labour at 10s. per week were needed to get it right again. The valuation as between the landlord and incoming tenant was only £8 11s. 3d., but had the land been properly cultivated it should have been between £45 and £50.

Mr. George Hawes, nurseryman for forty-two years, said it was more like a forest than a garden, and he never saw anything like it before. The brambles produced were a fair sample of the kitchen garden. It must have been years since the ground was dug up or anything done to it. He would not have allowed anything to valuation, but if the garden was properly cultivated the valuation should have come out at from £50 to £60.

Mr. John Simentt, valuer, Ormesby, with twenty-nine years experience, said that the observation he made on seeing the garden was that "if Kruger and De Wet hid up in it a regiment of soldiers could hardly find them." (Laughter). The garden was filthy.

William Youngs, the present tenant, said that the old garden when he took it was a plantation. The bushes were

dead and the Raspberry canes no use at all. He expected it would take him three years to clean it.

His Honour, without calling upon defendant, said that it was clear plaintiff never made any complaint though he lived upon the place, and he would never have brought the action if he had not been put up to it. He should not encourage litigation in this way, and there would be judgment for defendants.

NOTES OF THE WEEK.

Early-flowering Rhododendrons

at Kew.—The severe weather throughout the greater part of February, followed by the genial weather of March, have contributed largely towards one of the finest displays of early Rhododendrons ever seen in the Royal Gardens. Too often the expanding blossoms are killed by a sharp night's frost just as they are approaching perfection, but this year the absence of frost in March, together with the retarding influence of February's weather, has given us an opportunity of enjoying them at their best. Of the several species and hybrids the place of honour must be given to that grand old hybrid nobleman. In the Rhododendron dell several very large masses may be seen, all of which are smothered with rosy red blossoms. In the near neighbourhood of the largest group a good sized plant of the Himalayan *R. fulgens* is conspicuous by reason of its trusses of waxy, blood-red blossoms, whilst in still other places *niveum*, *Thomsoni*, and *dauricum* are either in or coming in to flower. In other parts of the gardens pretty patches of colour are made by beds and masses of *R. praeox*, the plants being smothered with blossoms. In the Himalayan house a number of the more tender species and hybrids are coming into blossom, a few of the most conspicuous being *Shilsoni*, *ciliatum*, *arborescens* hybrids, &c. Such a display in the middle of March is rare about London, though in the favoured south-west counties it is an annual occurrence.—W. DALLIMORE.

Practical gardening for teachers.

—A course of lectures, with practical work, will be given in the Middlesex County School of Horticulture, Pymmes Park, Edmonton (adjoining Silver Street Station, G.E.R.), by Mr. J. Weathers, F.R.H.S. (County Instructor in Horticulture), commencing Saturday, April 12, at 11 a.m. The lectures will, as a rule, be given in the greenhouses, the hardy flower garden, or the fruit and vegetable garden, so as to give as much practical information as possible. After the lecture, students will be allowed to assist in whatever practical work is being done in the garden at the time. All tools will be provided. The course will consist of sixteen lectures on subjects contained in the following syllabus. The order in which the subjects will be taken must depend largely upon the work in progress in the gardens. **Syllabus:** General survey of cultivated plants with special reference to those growing in the gardens. Points of similarity and difference between various groups. Annuals, biennials, herbaceous perennials, bulbous plants, shrubs, trees, Ferns, Orchids, &c. Functions of the roots, stems, leaves, and flowers. How plants are affected beneficially or otherwise by heat and cold, moisture and dryness, unsuitable soils, &c. The propagation of plants by seeds, cuttings, buds, grafts, layers, runners, offsets, bulbils, rootstocks, division, &c. Germination and its requirements, good and bad methods; suitable depths of covering with soil; thick *versus* thin sowing; thinning out seedlings; pricking off; transplanting. Cuttings of soft and hard-wooded plants; time for taking cuttings; the "callus"; development of roots; well-known plants usually propagated by cuttings. Budding; what a bud is, and when to take it; difference between leaf buds and flower buds; the value of budding as a means of propagation; kinds of plants increased by budding. Grafting; the graft (or scion) and the stock; necessity for relationship between stock and scion; only plants with a cambium layer (*i.e.* dicotyledons) can be budded or grafted; kinds of plants usually increased by grafting.

Hybrid Aquilegias.—My experience of the hybrid *Aquilegias* is that they are not nearly so long-lived as *A. vulgaris*, which is probably what is meant by the writer to whose remarks "A. D." takes exception. They are possibly harder than *A. chrysantha* and *A. cerulea*, but for vigour, hardiness, and long life they cannot compare with the common Columbine. What is wanted now is a little more infusion of the blood of that old flower into these newer hybrids, with the retention of the long spurs which make the latter so charming. I have here some natural hybrids in which there seems to be some of the vigour of *A. vulgaris*, derived from the work of the bees among the flowers, and possessing the long spurred flowers we all admire. Had I time I should like to follow these up. So far as I have observed the lovely hybrid *Aquilegias* want renewing from seed rather frequently. This is not difficult to do, still one would prefer to have them with a longer life.—S. ARNOTT, *Carsethorn, by Dumfries, N.B.*

Cornus Mas.—This early-flowering native shrub is too seldom seen in cultivation, for when smothered with its small heads of yellow flowers it is decidedly pleasing. It grows naturally into a good-sized bush of irregular outline, and is excellent for the shrubbery or for grouping in parks, gardens, or plantations. Large bushes, ranging from 12 feet to 15 feet in height are to be seen, and plants of that height, with a similar diameter, smothered with blossoms make a pretty sight. Its cultivation is simple, as it thrives in almost any soil, sandy loam appearing to be most suitable. When once established very little trouble is afterwards given.

Prunus Pissardi as an early-flowering plant.—I think this species is scarcely enough appreciated for flowering in a cold house at the end of February and in March. There is no necessity for forcing it, it is better without hastening. I have at the present time a low standard with a branching head 3 feet at least in diameter, composed of shoots averaging 2 feet in length that is simply a mass of white bloom. The plant is in a 10-inch pot that is full of roots. It stood out of doors all summer and winter up to the middle of February, and as soon as the buds began to swell it was brought into my cold house. While in the open it was frost-bound on several occasions, but took no harm whatever. Its wonderfully free blooming comes as a revelation to me. I had no idea it could flower in such happy profusion. I attribute this result to starving it to some extent. About twice during the summer I gave it a slight top-dressing of Clay's Fertilizer, and since it began to expand its buds it has had a little weak manure twice a week. As soon as the plant goes out of bloom—and it is so delightful that I wish it could retain its flowers for three months—it will be placed in the open, and during the summer the branches are so regulated as to have by the end of the season a head of vigorous young growths, for it is these which produce the harvest of blossoms. The buds are tinted rose on the exterior, and as they expand successively there is a very attractive sheen of colour among the matured white blossoms.—R. D.

Antirrhinums.—It always surprises one to see February recommended as the best month to sow *Antirrhinum* seed for giving flowering plants the same year. In February and March space is so crowded with half-hardy annuals that if anything can be put into the work of another month it is an advantage. I find September a far better time. If the seed is sown rather sparingly in boxes, the seedlings thinned out a little and wintered in a cold house, the young plants are 3 inches high by the middle of March, and will, of course, bloom earlier than their spring-sown relations. Outdoor sowing in the autumn does not answer here, as the fogs kill the seedlings.—E. C., *Surrey*.

County School of Horticulture.—A scholarship at the above school, Pymmes Park, Edmonton, of the value of £25 for one year, and renewable for a second year, has been awarded to Leonard M. Young, of 51, Leicester Road, East Finchley, N.

Chrysanthemum R. Hooper Pearson.—It is regrettable that this Chrysanthemum should make such unsatisfactory growth. In all collections which I have visited the basal shoots were more or less fasciated. Not only does this apply to plants which were used for exhibition last year, but also to those which were grown in the open border all through last season and lifted in November last for the sole purpose of perpetuating the stock. The flowers, although not so large as many others, are valued for their rich, deep, buttercup yellow colour.—C.

Rural industries.—The Countess of Warwick writes: "May I ask you for space to lay the following suggestions before your readers. The great growth of the past century indicates that co-operation and co-ordination are especially needed in things agricultural. Co-ordination is lacking not because of the innate dislike of people to co-operate, not because of jealousy between societies and associations, but chiefly because of the lack of opportunities of learning what others are doing. Taking the subject of village industries, for instance, it is most difficult to get definite information either as to what is being done in certain localities or where special industries flourish. Again, there are many possibilities for the promotion and establishment both of the lighter branches of agriculture and of many of the rural industries in villages and districts, but the individuals who have the will to start them either have not the power, the training, or the knowledge to see the possibilities within their reach. This lack of training and knowledge of course reacts upon the rural population, and contributes to the rural depopulation. Then, again, many local industries are cramped through not being more widely known, and many an individual started upon an independent career suffers through lack of a market; thus associations and individuals need the stimulus of friendly competition and mutual co-operation. It is proposed to hold a conference at Warwick Castle on May 1 next, to provide an opportunity: 1, For those directly engaged in any other lighter branches of agriculture or rural industries to make known their work; 2, for those who are interested in the things pertaining to the welfare of our country districts to learn what is being done to stay the rural depopulation; 3, for an interchange of ideas and sympathetic suggestions between those engaged in allied industries; 4, for those who need teachers or trained workers to meet those who are fully trained and capable of teaching others; 5, for the binding of all these in one strong organisation for co-operation and co-ordination. It is therefore hoped any who are interested in the objects for which the conference is called, and who wish to learn fuller details of the programme of the discussion, as also of the hospitality to be offered for the occasion, will write for particulars to the Warden, Lady Warwick Hostel, Reading, or to myself."

Tropæolum speciosum at Aldershot.—If not too late to reintroduce the subject, it may be of interest if I describe my experience of *Tropæolum speciosum*. The climate of Aldershot in summer is apparently the most unsuitable to the habits of this plant that could possibly be found, being exceedingly hot and dry. The soil in this garden is artificial—garden and meadow soil and road scrapings with manure. The foundation is a brickfield, from which a layer of sand and a considerable depth of clay had been taken. The roots were planted in April on a north-east exposure, having been sent from Perthshire just when they began to appear. That summer the plants grew about 5 feet high and flowered well. Last summer (their second season) they had spread considerably underground, and covered a wall space of probably 18 square feet. The original quantity of roots was a small handful. They again flowered luxuriantly. We find the secret of growing it is to water copiously all summer, to plant where early morning sun reaches it—but no noonday sun—and to keep the roots protected from even the morning sun. We leave the leaves on a Lily of the Valley bed in front, or plant annuals to give protection. I believe if the roots

are covered and much water given it will grow and flower on even a south exposure in other parts of England.—FRANCES GIBSON, *The White House, Lansdowne Road, Aldershot.*

CALOCHORTI AND THEIR CULTURE.

(Continued from page 186.)

GROUP VI.—THE CLAVATUS GROUP.

THESE are very strong growing plants, averaging 2 feet in height, bearing large, stout flowers aggregated into umbels; they have not got the exquisite markings characteristic of the venusta group, nor are they so graceful in outline, but they are the strongest growers, and their flowers are more or less covered with silky hairs; the flowers are shaped like those of *Tulipa retroflexa*.

C. clavatus, a veritable giant of its race, produces elegant golden-yellow flowers fully 5 inches across, borne on very stout stems clothed with strong Tulip-like leafage. The flowers expand widely, are massive and of stout substance, lasting several weeks in a cut state, whilst backward buds open in water quite as well as if on the plant. The inside of the flower is clothed with short hairs at the base, which is also marked with a few chocolate pencillings. This is a very handsome form indeed, and one to be strongly recommended to all who appreciate choice flowers. It was first brought into general cultivation in 1897, in which year it received the Royal Horticultural Society's award of merit.

C. plummeræ, an equally strong growing plant, produces massive soft lilac flowers of a satiny lustre, each 5 inches across, and borne on stout branching stems 2 feet high, clothed with lanceolate leaves equally long. The entire centre of the flower is clothed with long golden hairs, whilst the base is effectively marked with chocolate. The petals are very broad and fleshy, the flowers lasting a long time in a cut state on that account. This magnificent Calochortus must be seen to be fully appreciated, and I would refer readers to the excellent coloured plate which appeared in THE GARDEN, February 2, 1895. It received the Royal Horticultural Society's first-class certificate in the same year, a rare award to a hardy plant.

C. macrocarpus (Douglas), a plant widely spread throughout North-Western America, resembles *C. plummeræ* in general outline, but the inner petals are not so large, whilst the outer ones and the seed vessel are fully 2½ inches long, and are more conspicuous than is the case with most of the Calochorti. The flowers average 4 inches across, and the petals are of a pale lilac tint with a silvery lustrous sheen, the centre of the flower being much darker. This species does not flower so freely as *C. plummeræ*, bearing five flowers as an average—one on each branched stem. This plant has also received the Royal Horticultural Society's hall-mark in the form of an award of merit in 1895.

C. nitidus, a lovely species, bears a dozen large white or pale lilac-tinted flowers aggregated closely together in a loose umbel, the centre of each being marked with rich indigo blotches or eyes, and clothed with long silky whitish hairs. The flowers are very striking indeed, quite equal to the others of this fine group, whilst the plant is vigorous and of strong constitution.

C. weidii (Wood), a variable species as to colour, completes this group. Its flowers vary from white to orange, and are thickly covered with hairs in the manner of *C. plummeræ*. It is a very rare species, now almost lost to culti-

vation, a circumstance probably due to the fact that it has a poor constitution.

GROUP VII.—C. SPLENDENS.

A set of very graceful plants, with long flexuous stems and numerous flowers, which are smaller in size than those of the clavatus or venustus group. All are good growers.

C. splendens (Douglas) is a straggling plant, growing fully 2 feet high, with much branched stems, bearing a great number of pale lilac flowers, each 2 inches across, furnished on the inside with long white silky hairs. The long stalks render the flowers useful for cutting, and they are popular on this account. A coloured plate of this species was given in the issue of THE GARDEN for February 2, 1895.

C. s. atrovioleacea is a smaller but even more floriferous plant, producing from thirty to forty purplish flowers 1½ inches across, spotted vivid red at the base of each petal. Several dark purple forms occur among these plants, and it is at all times very variable.

C. s. rubra, a recent addition to the *C. splendens* set, shows remarkable vigour and freedom of flowering. The stems reach a height of 2½ feet to 3 feet and bear fully twenty rich rosy lilac flowers of a lustrous sheen 4 inches across and blotched at the base of each petal with glowing purple. This is an exceptionally strong plant, a vigorous, strong grower, and most floriferous. Mr. Carl Purdy says of it:—"This splendid variety is the largest and most beautiful of the species, and, coming from a higher altitude and further north than the other forms, it should prove hardier, as it is more vigorous. Stems 12 inches to 30 inches high; flowers large, deep pinkish lavender; short hairs at base of petals inside, and a purple spot." It will be noted that the plants lose none of their vigour in this country, for many exceed 3 feet in height.

G. B. MALLETT.

(To be continued.)

EXHIBITION VEGETABLES.

(Continued from page 189.)

RAISING SUMMER ONIONS.

It is first of all important to get a trustworthy strain, for without it success is impossible, and to secure this end it is well to always save one's own seed from a few selected bulbs. I do not for one moment wish to infer that good seed cannot be purchased, as many of our leading seedsmen take great care to select stocks, and good results frequently follow, but my contention is that a bird in the hand is worth two or three in the bush.

With regard to the variety I know nothing to compare with Ailsa Craig, and my opinion is that when at its best it represents a typical Onion, which will be for many years hard to beat. The seed should be sown for all southern districts early in January, and for the more northern parts at the end of the month or early in February in boxes 2 feet long, 1 foot wide, and 4½ inches deep. Give proper drainage and cover it with pieces of fibrous loam.

A suitable compost will consist of two parts good fibrous loam, one part spent Mushroom bed material, one part well-decayed leaf soil, adding to these ingredients sufficient coarse sand to keep the whole porous. This should be well mixed and passed through a ¼-inch mesh sieve, afterwards filling the boxes to within ½ inch of the tops. Make the compost thoroughly firm, when the seed may be sown thinly. Add sufficient soil to just cover the seed, which should be pressed down firmly with a piece of board and well watered in with a fine

rose. The most suitable place for raising the plants is an early Vinery or Peach house just started, but a light position in the greenhouse will also answer, or, failing this, a frame or pit, over-forcing must be guarded against at all stages of the growth under glass. Immediately the young plants can be safely handled transfer them to other boxes, using the same kind of mixture, with the addition of a 6-inch potful of bone-meal to every bushel. Use a small-pointed stick for lifting the seedlings, and dibble them in 3 inches apart, making them quite firm. Carry out this operation in the same temperature in which they are growing, as a check at this stage will have serious effects. Maintain a temperature of 55° to 60°, according to the weather, place near the glass, syringe frequently, and shade for a few days in bright weather, encouraging a sturdy growth in every way. After the plants have made a good start transfer them to a pit near the glass, syringe morning and afternoon, and ventilate freely whenever the weather is suitable. Finally, harden off in cold frames before planting out, and by this time the lights may be entirely removed, except in rough and stormy weather.

MANAGEMENT IN THE OPEN.

As mentioned before, the Onions should be ready for planting out early in April, the soil being made very firm about the base and thoroughly watered. Until established the newly-planted Onions receive much benefit by careful syringing for a few weeks several times during the day in bright weather. Stir the surface slightly between the rows with a Dutch hoe, and afterwards give a good mulching of sifted horse manure to the depth of 2 inches. About every ten days apply a dusting of soot and also a good patent manure, choosing showery weather as far as possible, and the best part of the day is late afternoon.

The Onion fly is sometimes troublesome, but chiefly affects plants raised outside; it is, however, always well to have a few plants in 3-inch pots to make good any failures, or the appearance of the bed will be spoilt. Mildew should be dealt with immediately it is seen. Cut off, remove, and burn every affected piece, and to prevent the disease from spreading dust thoroughly with slaked lime and black sulphur frequently. Keep the beds free from weeds, and in dry weather give thorough soakings of water, while at every other watering drainings from the farmyard will prove of much assistance. This may be continued until about the middle of August when growth should be practically completed. Complaints are frequent about the keeping qualities of these large specimens. When allowed to remain too long on the ground and roughly handled during lifting they decay quickly. They must not be bruised. When harvested early and carefully handled complaints should be few about premature decay. In the first place, lift partially with a small hand fork all the most shapely and promising bulbs, as this assists ripening and prevents splitting in wet weather. Many of the finest specimens are spoilt through neglect of this. Select a fine day for lifting the crop. In finishing the ripening off it is imperative to keep the bulbs dry, and for this purpose place them in boxes to hold about a dozen, and half fill the boxes with wood wool for them to rest upon. By so doing advantage may be taken of sunny weather to expose them, placing them safely under cover at night. A cool airy vinery or even cold frames are suitable places on wet days, turning the bulbs daily, so that every part is thoroughly exposed and ripened. Finally, clean them by removing all loose skins, paring

off the roots neatly, and shortening the tops, leaving about 6 inches, which should be neatly tied with fine twine. Store in a cool dry airy room, and allow them to rest on a bed of soft wood wool.

AUTUMN VARIETIES.

Prepare ground for this crop in the same way as for the former. Make two sowings, the first about August 20, and another ten days later, choosing a southern site for the latter sowing. Before sowing give the bed a good dressing of soot and wood ashes, and sow thinly in shallow drills 9 inches apart. Make thoroughly firm, rake down fine and level, hoe frequently to keep down weeds, and little further attention will be needed before spring. Being practically hardy the earlier the plants are transplanted to the prepared ground the better. Lift the strongest and best plants with a garden trowel, plant with the same, and treat exactly as advised for the summer crop. Autumn-sown Onions are indispensable for spring and summer shows, and when well grown and staged stand one in good stead in close competition in a collection of vegetables. No attempt should be made to ripen these off except for late shows, and to be seen at their best they should be faced up and neatly garnished with Parsley. One of the best varieties for this purpose is White Leviathan, but it is not a good keeper. Other good varieties are Blood Red and Lemon Rocca.

PEAS.

Exhibition pods of the highest excellence can only be obtained when the best known methods of culture are practised. Unquestionably the most important of all is the preparation of the land. Fortunately Peas, like many other vegetables, are not over fastidious as to the soil, provided, of course, it is brought under a proper system of cultivation. Deep tillage is important, and it is surprising to what a depth the roots will penetrate in search of food and moisture during hot and dry weather, providing, of course, the soil is in a favourable condition. The land should be thoroughly trenched to the depth of 3 feet 6 inches during winter and given heavy dressings of manure. That which is quite green from the farmyard should be placed at the bottom, and in the centre of the work that in a more advanced state of decomposition. On stiff retentive land anything with a tendency to render it more porous should be worked in, for instance, such as burnt garden refuse, mortar rubble, and road scrapings, and immediately the trenching is finished a small surface dressing of soot and lime in equal proportions should be applied. The land should then be in splendid condition for receiving the seeds or plants when the season comes round. As a rule it is fairly easy to get good dishes of Peas during June and the early part of July, but after that date, except in the northern districts, they are more difficult to obtain. At the same time it is practically useless to put up a collection of vegetables unless these are included, so that strenuous efforts should be made to obtain them, and deep trenches should be prepared for these late editions in the same way as for Celery. Select suitable varieties, sow the seed thinly at the proper dates, and have the roots well under control; the trenches are a means of supplying both liquid manure and clear water in sufficient quantities to maintain the plants in strong growth. A good mulching of half-decayed manure, however, should be placed about them. Mildew generally plays sad havoc with all the later sowings of Peas, this resulting from dryness at the root. For all early shows I much prefer raising the plants in

boxes and transplanting, and I have long since come to the conclusion that much better results are obtained in this way, providing, of course, the plants receive proper attention during their growth before planting out. In no case must the plants be forced, but encouraged to make a sturdy and quick growth, and be thoroughly hardened before placing in their open quarters. This plan I consider has many advantages over sowing in the open. The earlier sowings should be made under glass during February and March, using boxes 2 feet long, 1 foot wide, and 4½ inches deep, and make provision for good drainage.

The best compost consists of two parts good loam, one part rotten leaf soil, and one part spent Mushroom bed material. Well mix and cover the crocks with the rougher parts of the soil. The boxes should be three-parts filled and the compost made moderately firm. Sow the seed evenly all over, leaving them about 1 inch apart, and cover with half an inch of the finer soil, giving afterwards a thorough watering. A gentle heat is all that is required, a vinery or greenhouse answering admirably. As soon as the seedlings are well above the soil remove the boxes to a cold frame or other glass structure where a sturdy growth is possible. Gradually admit air, thus hardening them off until they can be placed out of doors in an open yet protected situation before planting. Make the first sowing towards the middle of February, continuing at intervals of a fortnight for succession. Each plant should be lifted with a small hand fork. Plant double lines, allowing 3 inches between the plants and 4 inches between the lines. Stake and protect the plants with nets at the same time, and give a dusting of fine cinder ashes as a check to slugs. If the weather be fine when planting water in freely. Later sowings should be made in the open and the seed dibbled in twice as thickly as it is required, thinning out when the plants are sufficiently advanced, and staking at a later period. As soon as the third flower can be seen pinch out the point of the growths, remove the garden netting, and apply a good mulching of manure. All badly formed pods should be taken away and moderate thinning practised at all times.

The pods of exhibition Peas should be large, well filled, of a good colour, and free from rust, while the seeds should be of fair size, fresh, and of good colour, quality, and appearance. For the first sowing outdoors commence the first week in April, while the last should not be made later than the first week in June. Rows of dwarf Peas should be 6 feet apart, and the taller kinds about 8 feet.

For the earlier sowings choose Early Morn, a much improved form of Gradus, for mid-season varieties Duke of Albany, Alderman, and Edwin Beckett, the last-named quite new, and for the latest sowings Autocrat is the best. Other good late Peas are Sharpe's Queen and Mr. Gladstone.

EDWIN BECKETT.

(To be continued.)

CONTINENTAL NOTES.

Hybrid Begonias Buisson Rose and Perle Lorraine.—Möller's *Deutsche Gartner Zeitung* gives two photographs of these raised by V. Lemoine and Son, Nancy, and both plants are very free flowering and attractive. The former springs from a cross between *B. diversifolia* and *B. polyantha*, and is described as flowering freely in the open from the end of August, continuing, when lifted in the autumn and placed in a cold house, until January. The foliage is small, dark green, and sometimes pink edged. The latter named plant is a cross between *B. polyantha* and *B. Daedala*, with large leaves and robust habit, and bears pretty pendulous

corymbose panicles of thirty to forty flowers each, white with pink centre, and lasting forty days, forming a mass of bloom. This flowers from the beginning of January until April, and is claimed to rank with Gloire de Lorraine in permanence of the flowers, &c.

Hardy Nelumbiums.—Further evidence is given of the hardiness of *N. speciosum*. Specimens put out perforce owing to re-erection of warm house in the Botanical Gardens at Bonn, started into rapid growth in June, and flowered freely, which they had failed to do under warm treatment.

Peacock-flowered Asters Amethyst and Miss Roosevelt.—A coloured plate in *Die Gartenwelt* shows two very charming varieties. They belong to a section, the flowers of which are at first white or yellow, and then gradually assume very delicate tints of rose and lilac on the tips of the petals, the gradations having a very beautiful effect on the permanently lighter ground. Amethyst starting as a white, gradually assumes a lighter blue colour, commencing on the top and spreading and deepening into an amethystine blue towards the centre, which, however, remains pure white almost to the last. Miss Roosevelt is even more chameleon-like in this respect, starting pale yellow and changing in like fashion to a pure flesh tint, comparable in effect to that of the Gloire de Dijon Rose. Both forms raised by Otto Putz, Erfurt.

Plant feeder.—A glass plant feeder previously noticed by *Die Gartenwelt*, and acting by percolation from a neck inserted in the soil on the side of the pot, is again reported upon after very practical tests, which, while evidencing its value under certain conditions, shows that the inventor had assumed wrong fundamental principles, and hence overlooked necessary instructions for its reliably effective use. An example is here afforded which might with advantage be followed on this side, since doubtless many valuable horticultural inventions are handicapped by the fact that we have no official centre for their trial and recognition, and it is very rare that any competent authority takes the trouble to test impartially in this way and report *pro* or *con* as results determine.

NOTES ON HARDY PLANTS

SAXIFRAGA OPPOSITIFOLIA AND ALLIED SPECIES.

THOSE who have seen this group of Saxifragas on the Alps, and also flowering in our gardens, will agree with me that their beauty is remarkable. They are widely distributed, and found almost everywhere on the higher points of European and Asiatic mountains, but specially on the Alps. In Spain, on the Sierra Nevada, according to Boissier and Wilkomm, they grow at an altitude of 10,000 feet, and on the Alps of Savoy at the same altitude; in fact, a friend who ascended the Mont Blanc for the fourth time last year brought me as a souvenir from the Grand Mulets of the Mont Blanc a plant of a very fine bright coloured and large-flowering variety of *S. oppositifolia*. I have also seen plants collected on the Rocky Mountains of North America and Greenland and Arctic North America. In England it is still found in Yorkshire, and is, I believe, also common locally in some parts of the Highlands of Scotland. According to Hooker, a form is found on the Himalaya, and we also know that it grows on the high points of the Caucasus. The forms with the largest and brightest coloured flowers are those of the Western Alps, the Dolomites, and Pyrenees. The North American and, in fact, the Arctic forms have somewhat insignificant flowers, and are, moreover, shy blooming. None of these are difficult to manage; in fact, they are so easily grown that they can even be flowered in the smoky neighbourhood of towns, and are not at all particular like some plants of the same description as to the stone or rock so long as they are fairly moist with a gritty humus or peaty soil. To get the best results grow the plants in a partially shady position, perhaps the

north side of the rockery, and let them overhang rocks in such position without growing too luxuriantly; they will flower all the freer. In the Alps I have always met them about mid-summer, or as soon as the snow has disappeared. Those, however, carried down the valley either by avalanches or by the action of rain, &c., flower in April or May. Under cultivation in England they flower often as early as February or March. The proper time for planting is during spring and summer from pot-established plants. Collected plants being frequently lifted at the most unfavourable time invariably die.

I have known every plant collected and brought home from Switzerland by visitors die in spite of every precaution. Almost all of this section are of prostrate, creeping habit, with long wiry and leafy stems, evergreen, small, opposite oblong or obovate densely ciliated leaves. The showy flowers are about one-third of an inch to half an inch across, on short branches and campanulate, with five nerved obovate oblong petals. The colour in what is considered the typical *S. oppositifolia* is purple, in *S. alba* it is either creamy white or pure white, usually small flowered; *S. o. pyrenaica* is a large-leaved and large-flowering form, with numerous bright purple flowers, and it is of somewhat robust growth. *S. o. splendens* has the brightest coloured flowers; they are almost crimson-purple, and produced very freely. *S. o. major* is similar to *S. o. pyrenaica*; it differs but little. On the Alps of Lower Austria I have often found a form with very fine lilac flowers with darker centre, which, to give it a more descriptive name, would be *S. oppositifolia* lilacina major. The ordinary pale flowering form of Switzerland is hardly worth growing. A very fine form is *S. rudolphiana*, which is easily distinguished from any of the *S. oppositifolia* by the short, more or less, erect stem, and by its terminal erect flowers, besides other points. The flowers are large (larger than even those of the best forms of *S. oppositifolia*) and of a bright rosy purple. This is the earliest form of this section, and invariably flowers in the open in February, and during very mild winters even in January. It is a very local plant, rarely seen in cultivation. It is as easily grown as the former, but more difficult to propagate.

S. retusa is a minute species, but very distinct and pretty, having the habit of *S. oppositifolia*, with creeping, very slow-growing stems, rigid and deep crimson-purple, very showy flowers. The whole plant is scarcely half an inch in height, and is easily grown on any rockwork, and flowers under cultivation in April. When seen in its natural habitat it is very fine; it carpets the bare rocks with hardly a vestige of humus. Many a plant I have taken and tried to transplant, but

rarely succeeded. In this and the following the recommendation to procure and plant only established plants holds good more than ever. *S. retusa* goes also under the synonyms of *S. wulfeniana* and *S. imbricata*.

S. biflora, the highest Alpine form of *S. oppositifolia*, differs chiefly from *S. oppositifolia* in the short ascending stems, and small, more fleshy leaves, which are also much more rounded. The bright-coloured, erect flowers are deep crimson-purple. It is one of the last to flower in the Alps (not before July), while in cultivation it flowers in April or May.

Similar is also *S. macropetala*, but has larger and showier deep lilac-purple flowers. It is an exceedingly rare Alpine, seldom seen in cultivation, and flowers in April; in the Alps not before July.

There are also several pretty and very distinct



ANTIRRHINUM GLUTINOSUM IN A LIMESTONE WALL AT THE JARDIN ALPIN D'ACCLIMATATION, GENEVA. (Photographed by Miss Willmott.)

hybrids, the result of natural crosses. I have seen two or three in gardens of eminent Continental collectors and lovers of the genus Saxifraga, and have at least the promise to have the first offer when the time for distributing comes. All of them are very easily propagated, and grow and flower freely in the rock garden, in a bed of pieces of stones, gritty sand, and humus, and where for instance *S. oppositifolia*, with rank growths, would not flower at all, these hybrids seem to flower almost anywhere. G. R.

ANTIRRHINUM GLUTINOSUM.

(BOISS. ET REUTER.)

ONE summer's day, while I was still a child, I was enchanted by the beauty of a white flowery

tuft that grew out of a wall in Edmond Boissier's garden at Valleyres. The immortal author of the "Flora Orientalis" took pleasure in adding to my enthusiasm by telling me what he himself had felt when, during his first travels in Spain, he saw this plant in the great walls of the Alhambra at Grenada, and recognised that it was no other than *Antirrhinum glutinosum*. Since then many years have passed, but I have always kept in mind the pretty plant of Valleyres, and as soon as I was able I obtained it for the Jardin Alpin d'Acclimatation, where it adorns the wall of a greenhouse and flowers nearly all the year. Miss Willmott always much admired it and took it to Warley, where it succeeds admirably. It is a perennial of stoloniferous habit, that quickly covers and charmingly decorates the surface of a wall with its large Snapdragon flowers of yellowish white colour and elegant form and its pale brown buds. The flowers are produced in abundant succession from May to winter.

Genera.

H. CORREYON.

THE FRUIT GARDEN.

THE VINE.

FORMATION OF BORDERS AND PLANTING OF CANES.

NOW that the time to plant Vines is again at hand, a few words as to the method of preparing borders and the planting of the young canes will not be altogether superfluous, especially when we consider how many mistakes are annually made as regards these two important items. As the subject is one upon which the ablest cultivators differ, we can but scan over the most important points to be seen to in order to ensure success. We shall take the headings as follows: (1) The general formation of borders; (2) the best soil to use and the mixing of same; (3) deep *v.* shallow borders; (4) the best course to pursue, considering the various opinions which prevail.

FORMATION OF BORDERS.

Although autumn is the best season for preparing borders, the work will not suffer if left until the spring; indeed, some growers firmly believe that the latter season yields the best results. Before a perfect Vine border is made the soil within the vinery must be dug out to a depth of 3 feet or 4 feet, and the bottom thoroughly concreted to ensure perfect drainage and to prevent the roots penetrating into the cold subsoil beyond. In addition to this a drain should be so laid as to carry away any superfluous water. After the concrete is thoroughly set a layer of brickbats, lime rubbish, &c., should be placed to further facilitate the escape of superfluous moisture. Some believe in placing a layer of old branches of trees on this base, but this operation is dangerous, because the branches rolling cause the formation of fungi, which may cause the death of roots coming into contact with them. For the first two or three years the width of the border need not exceed 4 feet or 5 feet, until the roots ramify into it, when another breadth of soil may be added, and so on until the whole border is finished.

SOIL.

No two authorities give the same description of compost for Vine culture. Generally speaking the more simple a border is made up the better. We have, however, to acknowledge that whereas Vines will grow in a border made without any special preparation in one locality, the best soil procurable will not grow them to any degree of perfection in another. I am far from disparaging the skill of the grower in the selection of the proper material for growing Vines, but the selection of soils generally must be made, not on any scientific basis, but determined by the eye and hand, and with a little practice it is wonderful how well the grower can discriminate. A fundamental principle is that the compost be full of unexhausted fibre, and that it be of somewhat tenacious but not of a very close character. The best soil consists of a fibrous

calcareous loam taken from an old sheep or deer pasture if possible; failing this, the best procurable must be employed. This turfy substance should be stacked for at least six months, the proper condition being arrived at when the grass is dead. It should then be cut roughly with a spade and thrown into a ridge, care being taken to provide means of warding off heavy rains, &c. To ten cartloads of this soil add two of lime rubbish, such as old plaster containing hair, if possible, one cartload of thoroughly charred wood, and any fine ashes that may be amongst it, one cartload of fresh horse manure, 4 cwt. of broken bones, and one cartload of leaf-soil, which should not be used in a half-decayed state, as then it is certain to contain small pieces of decaying wood impregnated with the spores of fungi that frequently enter the roots of Vines, where they develop and often destroy the plants suddenly.

If the above compost is not available a good substitute will be found in the following: Take half the quantity of soil required from the garden, expose it to the winter frost, and in the spring mix with it road scrapings, parings of turf edgings, and other similar substances. Build all up in a heap with the turf, &c., on the outside, the centre being made of old hedge trimmings, &c., the whole being set on fire. After a few days burning, when the wood is charred, extinguish the fire by pouring on the mass the drainage of cow byres and other liquid substances. After the mass has dried a little add to the compost a few loads of lime rubbish and bone, and thoroughly mix the ingredients together by frequent turnings during fine weather. A rich compost thus naturally worked up will prove excellent for Vine borders.

DEEP *v.* SHALLOW BORDERS.

Some cultivators have a bigoted idea concerning the depth of borders. The upholders of the deep border establish their claim to the right method, because they think that the roots have a larger scope to ramify into. True, but at the same time there is this danger, that before the roots get established the lower portions of the border will have become unfit for plant roots to exist in, and the result will be a waste of time and material. On the other hand, shallow borders are equally unfit, because of the fact that they dry up too soon, and, further, a larger amount of time and expense will be incurred in top-dressing to supply the plants with the deficient food which they would naturally absorb from a greater quantity of material. A happy medium is the safest method to adopt, the moral pointed out being that a border should be neither too deep nor *vice versa*, but that utility and wisdom should be employed to furnish the plants with food, without harbouring a bigoted idea that only one method is perfect.

Unless a guarantee can be had that the young Vines have been raised without the aid of bottom heat they should be propagated by the cultivator himself from cuttings or eyes. Those plants which have been unduly forced by being placed in hot tan invariably die off unexpectedly. It is far better to procure a well-ripened, sturdy cane with a mass of healthy roots than a plant which looks healthier but is in reality not so. The best time for planting is in spring when growth has started. The hole should be wide enough to enable the roots to be spread out evenly, and so deep that when it is filled in the plant will not be an inch deeper than it was previously.

The plant should be prepared by cutting the cane back to within 2 feet of the pot, and as the eyes start they should all be rubbed off except three or four at the base. When the Vine is planted the strongest shoot is selected and trained to the wires, the others being broken off. With careful treatment this will grow and ripen to a considerable extent the first year. At the end of the year cut the rod back to within a foot of the year's growth and give the same treatment as to older plants. After planting some good friable loam without manure should be placed over the roots; manure tends to unduly stimulate the plants when young, and also probably has a bad effect upon the succulent roots. No water should be given the plants until they have fairly started into growth,

except by means of the syringe to the young foliage.

JOHN DENMAN.

Bryubella, Tremerchion, St. Asaph.

WINTER PEARS.

THE diversity of opinion expressed in recent numbers of THE GARDEN as to the merits of some winter Pears is so pronounced as to lead one to wonder at the effect on certain varieties of different soils and situations. My own experience with Beurré Bachelier here in West Surrey on a light, dry soil is almost identical with that of Mr. Wythes, distinctly a second class Pear, and hardly worth a wall, a poor keeper and traveller, always over by the middle of December. Glou Morceau, on the other hand, is distinctly first-class, and would be ranked among the best half dozen. It is specially valuable for its long keeping qualities, the fruit remaining sound and good for some time after being ripe. We have trees on three different aspects, and, given fair crops, ripe fruit of this variety is available all through December and January.

E. BURRELL.

PEACH BUD DROPPING.

I VISITED an establishment the other day where both Grapes and Peaches are largely grown for market, many thousand feet run of wire trellis being covered with well-grown trees of both Peaches and Nectarines, and found the same objectionable characteristic here that one experiences in private gardens, *i.e.*, the tendency to bud dropping in the early varieties, Alexander and Waterloo. When one sees, as I did here, all other best known sorts thickly studded with blossoms of splendid size and substance, and the two above-named but poorly furnished it seemed one of the mysteries of Peach culture. Bearing in mind how valuable they are for early work I could not help thinking that a solution of the mystery would be a great boon. I have never found them to shed their buds prematurely out of doors. The new early Nectarine Cardinal, represented by a large number of fine young trees, was highly spoken of. "We have never found the slightest tendency to bud dropping with this" was remarked, and the earliest fruits were sold last year at 48s. per dozen.

E. B.

ARTIFICIAL MANURES IN THE GARDEN.

It is not necessary to preach to the gardener concerning the value of animal manure. Whether it comes from the stable, or from the cow house, or the pig pen, he is quite aware of the advantage of a good supply, and prepared to make use of it to the fullest extent. Happy, indeed, the man who is able to get a good supply, for one of the great helps to the production of bountiful crops is at his hand. But we are not all in that fortunate position, and few have quite as much as they could profitably make use of. In these circumstances it is essential that resort should be had to artificial manures, and a few notes on these may be useful. It is not so very long ago that nine gardeners out of ten when speaking of artificials meant guano, and even in recent years the range of artificials brought into general garden use has been very limited. Sulphate of ammonia has had great vogue, and its praises as an aid to the flower grower especially have been sung with great persistence. Its value is not to be denied, and I mention it only to point out that its rival, nitrate of soda, should not be forgotten, and that the choice of the two affords an advantage not only in regard to prices, which fluctuate, but also in regard to different soils and climates. Nitrate of soda is much more soluble than sulphate of ammonia, and more prompt in its action. Applied to soil of loose texture, before the crop was ready to take it up, much of it would be washed away and wasted. Here are two matters then that should influence the grower in his choice. If the plant is inactive growth, or if the weather is dry, the nitrate would be a better manure to use—we are assuming that nitrogen is needed—than sulphate of ammonia. On the other hand, if the

dressing is given before the crop is ready for it, or if the weather is wet, the sulphate would be preferable. Of course it is not possible to foretell what sort of weather we are going to have, but some districts have a large average rainfall, while others are dry; and the selection can be made accordingly.

This suggests a point on which a word or two may be said. It should be obvious that even when the question of the supply of only one ingredient—such as nitrogen—is concerned, it is impossible to say that any one manure is best under all conditions. How much less is it possible to recommend any particular artificial as the most suitable for all crops and all soils? Yet this is actually what some people expect, and the request shows that they are entirely unacquainted with the right way to use these manures, and that if they proceed to use them, nevertheless, they will probably waste a good deal of money. For a very little careful experiment will show a man who records results how easy it is to throw away money in the use of artificials.

Artificial manures are divided into three great sections—those which supply mainly or solely nitrogen, those which supply phosphates, and those which supply potash. These are the three substances which plants require, and without which in varying proportions they cannot grow; there are other substances needed, but as the soil contains these in plenty it is not necessary to take them into consideration. Supplying as it does in many cases only one of these ingredients, the artificial is not alone a complete manure. It is this which has given rise to the suggestion often heard even now that nitrate of soda is an "exhausting" manure. It is evident that if the application of nitrate of soda causes the production of a larger crop than would otherwise have been grown, there is a greater demand upon the phosphates and potash in the soil, and as nitrate of soda supplies neither phosphates nor potash its continued use would, of course, result in the removal from the soil each year of quantities of these materials. But this is not the proper way to use an artificial manure, and the only result of the nitrate is to bring about the impoverishment of the soil a little more quickly than would be the case were crops grown year by year without the use of any dressing at all, and this not because the nitrate does anything to rob the soil, but because by bringing about the production of bigger crops it uses up the supply sooner. This misapprehension is not perhaps so

common among gardeners as among farmers, but it is as well that the real position should be made clear.

The chief sources of nitrogen have already been mentioned. A good sample of nitrate of soda should contain less than 5 per cent. of impurities, that is, it should be obtained with a guarantee of 95 per cent. purity. Such a sample would contain 15.6 per cent. of nitrogen, which is equivalent to about 17½ lb. in each cwt. This is worth now on rail something over £10 per ton. Sulphate of ammonia may contain as much as 25 per cent. of ammonia; but this is not the same thing as 25 per cent. nitrogen, and in comparing the prices this fact should not be lost sight of. One per cent. of nitrogen is equal to 1.214 ammonia; if, therefore, we wish to see the ammonia value of nitrate of soda we multiply the nitrogen by 1.214, and if we wish to find the nitrogen equivalent of the ammonia in the sulphate of ammonia we multiply the latter figures by .824. It follows then that 25 per cent. of ammonia would be equivalent to 20.6 nitrogen, equal to 23 lb. in the cwt., and this figure being arrived at it is easy to find which is the cheaper of the two articles at any particular moment. It will be seen that 3 cwt. of 25 per cent. sulphate of ammonia supply very nearly as much ammonia as 4 cwt. of nitrate of soda; 25 per cent., however, is a high quality, and the basis four to five would more nearly represent the respective values of the two manures to the grower in cases where it is a matter of indifference which is used. At present prices the sulphate is the cheaper of the two. Nitrogen is to be obtained in other forms—blood manure, in the shoddy or waste often largely used in Hop gardens and in other materials—but its action when in these forms is very slow, and it should be bought at a much cheaper rate. As it is not so readily washed out of the soil as in the case of the highly soluble nitrate of soda, and of sulphate of ammonia, nitrogen in horn shavings, and other refuse may be profitably used sometimes in orchards and for various crops which occupy the soil a long time. Such refuse is, however, often made to look well "on paper," and it is well to know in what form the nitrogen is present when buying a manure of undefined character.

The uses of nitrogenous manures are manifold. With the exception of one family of plants there is hardly any crop to which they may not be applied with advantage. Used as a top-dressing for Leeks, Onions, and Cabbages their effects are very manifest,

and they may be applied to flowering plants in pots, and in nearly all the cases in which what the gardener calls "a little assistance" is needed. It is, however, waste of money to apply nitrogen to Peas, Beans, or any plant belonging to the leguminosæ, unless possibly in the very earliest stages of their growth. It will not increase the crop in the slightest degree, and it may even have a prejudicial effect. The excellent effect on the land of a crop of Peas or Clover has long been recognised by cultivators, but it is only of late years that it has been discovered that it is due to the fact that the leguminous plants have the power of obtaining nitrogen from the air. Experiments have placed beyond doubt the truth of the statement that soluble nitrogenous manure might as well be thrown away as applied to any of these plants, for it will not benefit them, and it will—in great part at least—be washed away before the succeeding crop can make use of it.

W. Y. N.

DWARF CAMPANULAS.

SOMEWHAT tardily I admit, but none the less sincerely, I write to thank you for having so thoroughly fulfilled your promise to let us have a list of the Alpine and Saxatile Campanulas with their synonyms.

Will you permit me to, at the same time, express my indebtedness and thanks to M. Correvo for the care and thoroughness which he has displayed in carrying out the task you placed in his hands.

I have been asked by several of my Campanula-loving friends to express their thanks to M. Correvo. Perhaps you will be able to see your way to conveying their sentiments and my own to him.

My experience of these delightful miniature Bell-flowers is not a very lengthy one, but they were among the first inhabitants of my small rock garden, and I certainly have had more satisfaction from this family as a whole than from any other that I have tried to induce to take up its abode and dwell with me for a season. Amongst them are to be found species that grow as easily as weeds, even here in smoky foggy London, so that no one need be afraid of attempting them. Also among them, alas! are to be found others that refuse to grow

with me under any circumstances whatever, despite care, proper soil, and every attention, and then there are those that may be classed between the two extremes above indicated, some flourishing with care, others just existing, and yet somehow one rejoices more over the few blooms that one may get from these than one does over the others that give their flowers literally by the hundred. Following on the lines of M. Correvo's monograph I will write of them alphabetically.

C. abietina.—This with me never exceeds 12 inches in height; it is one of the best of the Alpines. Robinson does not mention it, and M. Correvo considers it a border variety, and includes it in his first list, but I mention it here because it has been one of my successes, easy to grow and keep. It is very distinct, has vase-shaped flowers on upright stalks, and is a good colour. Very floriferous, flowering from May to August. I had a few blooms in September even.

C. Allioni.—This I grew, or rather attempted to grow, for



CAMPANULA PULLA AND C. ABIETINA (TO RIGHT).

the first time last year. The plant succumbed to the October and November fogs. It did not bloom, but made several rosettes. M. Correvo's remarks on its culture are very interesting and useful. I shall try again next year, and take some means to keep the fog away as much as possible. A slight error, possibly of translation, has crept in, in referring to this variety, for on page 452, vol. lix., we read: "It reproduces itself but little by seed"; further on, "However, as it yields a quantity of good seed which easily germinates," &c. I think the probable reading should be:—"It reproduces itself but little *except* by seed," and the second quotation might stand as written.

C. alpina.—This I thought I had grown, but I have now my doubts whether it was true. The plant was sold to me as alpina by a well-known firm; it answered very fairly to Robinson's description, which differs considerably from M. Correvo's. Speaking from memory, I should say the flower stalk was nearly 12 inches high. Robinson says 5 inches to 10 inches, M. Correvo 3 inches to 5 inches, so that in all probability my plant was not alpina. This seems more probable when one finds such an authority as the late Mr. Selfe Leonard (to whom I am much indebted for kind advice) stating that "this is one of the miniatures," and goes on "to doubt if the true variety is to be procured now in this country." Has Miss Willmott a plant of it among her collection, I wonder?

C. barbata.—This I have to grow yearly from seed, and it always acts as a biennial with me. Its pale blue bearded flowers have a charm all their own. I have never yet raised the white form, although I have tried to do so. The October and November fogs have, I am afraid, played havoc with the hairy Campanulas, of which this is one.

C. Bocconi.—A white form; this I found was identical with pusilla alba; at least I could not find any difference.

C. caespitosa.—This is the tufted Hairbell, and seems to be sold by the trade under three names—caespitosa, c. pusilla, and c. pumila. Robinson distinguishes the latter by saying it is a dwarf form of caespitosa. M. Correvo, however, says pumila and caespitosa are identical, pumila being simply Curtis' synonym for caespitosa. I have the two varieties pusilla and pumila, which are distinct. Your drawing of pusilla on page 161 is the pusilla I know and grow by that name, and the pumila that I grow is identical with the pumila of Curtis (see plate 512, *Curtis' Botanical Magazine*, also plate 12 of *Maund's The Botanic Garden*), so that it is still a little confusing. The flower of pumila is about half-way between pusilla and pulla. One ought to drop, I suppose, pumila and call it caespitosa, but it goes against the grain somehow. *C. caespitosa* then is a beautiful alpine not so free flowering as pusilla, nor so free growing, but darker in colour.

The next Campanula of M. Correvo's list that I have grown and know is

C. venisita.—I never had more than two plants of it, one of which was supplied to me as *Zoysii* (something quite distinct), and it is one that I cannot keep throughout the winter. It is not easily transplanted owing to its tender roots,

and it has always succumbed to the fogs. It is a pretty creeper and well worth growing.

C. Elatines I have never grown, but I see it is one of the downy ones, so success is very unlikely; your illustration on page 64 shows it to be distinct.

C. excisa.—I flowered this for the first time last year, but my plant was only a very small one (of the kind that our friends the nurserymen still continue to send us sometimes). There was a delightful clump of it at Kew in the rock garden, and I saw two small pots at the Temple show that, however, did not do it justice. It is one of the most curious of the Campanulas, but at the same time beautiful. I shall try growing it from seed.

C. fragilis.—This is the well-known greenhouse plant that one sees so often growing in hanging baskets. I generally plant this and isophylla in June, when all danger of frost is over. I think one may say that this and all



CAMPANULA BURGHALTII PALLIDA.

the Italian Campanulas require greenhouse protection during the winter months. I have not yet succeeded in wintering any of them out of doors.

C. garganica.—This is sometimes mixed up with fragilis, but it is quite distinct. I am very fond of it and its variety hirsuta. M. Correvo solves the mystery of *C. Erinus*, a plant I had from Messrs. Ware—undoubtedly perennial, distinct and diminutive; now *C. erinus* is referred to in most botanical dictionaries as an annual. M. Correvo says that Ware's form, called *C. Erinus*, should be called *garganica compacta*. I can bear him out in stating that it is worthy of acquisition. It is very tufted and small, and increases very slowly.

C. hederacea.—This for some reason is not mentioned by M. Correvo. It is illustrated in *Maund's The Botanic Garden*, vol. vi., plate 124. It prefers moisture; my plant of it was found on Dartmoor, where I believe it is fairly common. The late Mr. Selfe Leonard, at the

Guildford Hardy Plant Nursery, showed me a hybrid form called *cranmoreiensis* that was very pretty. Does this come from the famous Cranmore Pool, I wonder? H. E. MOLYNEUX.

(To be continued.)

THE FLOWER GARDEN.

CANTERBURY BELLS AS POT PLANTS.

IT has often been a subject of remark that Canterbury Bells, with all their loveliness, are unsatisfactory flowers to grow in borders in masses. Given a favourable season the display made by a good bed of well grown plants may be delightful, but even in a favourable season a shower of rain, or even an extra heavy dew, will cause the destruction of every bell that has shown colour. Of course it is not the rain that does the mischief so much as the sun acting upon the wet petals. In continuous wet and cloudy weather the flowers do not suffer so much, although the plants do, for the side branches of the stem are too weak to support the burden of the saturated bells; but a bright sunny day after a shower will turn every bell brown or yellow, and it is a heavy task, even for the enthusiast, to go round his ruined beds removing the unsightly traces of the withered flowers.

It may not be generally known that the Canterbury Bell can be successfully used as a pot plant, but even if that be the case it is assuredly not a matter of general practice. For those who like living plants in their rooms there is no more charming flower, particularly as there is no regretful feeling that the plant is being spoilt by the atmosphere of the house, a feeling that prevents many a lover of flowers from filling the rooms with his favourites. Not only has the house atmosphere no deleterious effect, at least, not obviously, but the Canterbury Bell, being a biennial, is doomed to die in any case after its flowering and seeding period is over. The Bell-flower, to which this note refers, is the Campanula Medium, a true biennial, although the name is loosely applied to many other members of the Campanula family, including some perennial species such as *persicifolia*. Many years ago the writer, having often seen the recommendation in books, but never in practice, resolved to test its merits. There was an extra stock of plants, and just before the buds began to show the plants were lifted and placed in rather small pots for the size of the roots. They were kept shaded and watered for a few days and then were taken into the house, where for weeks their beauty was enjoyed. There was no rain there to beat down the bells, no wind to break the side branches, no sun to tan damp petals, and the result was that for four weeks the identical bells hung on the plants fresh and lovely. During that time the outdoor beds had been thrashed with wind, beaten by rain, and discoloured by sun; they had been disseeded (an awkward word but expressive) and had bloomed again, and had suffered a second time, and the beds had been cleared of their remains, yet still those in the house continued their crop of flowers.

It was found by experiments in succeeding years that it was best to pot up the plants just as they showed colour in the bells, that it was more satisfactory to have plants with a single stem, and that the smaller the pot the better they flowered. It is a good plan if large plants be required to sow the seed late, say in August; in this case

the plants do not flower at all in the succeeding year, and make enormous bushes for the third; but unless they can be so protected from wind and rain as to keep the bushes (the word is used advisedly) intact their appearance is spoilt by gaps. Experience pointed out that it was desirable to keep plants growing outside and in the soil, not in pots, as long as possible, so that the large specimens could rarely be kept fit for lifting in consequence of the elements. There are two more points to note about the utility of the Canterbury Bell as a pot plant. It does not mind how dark a room may be provided it has been left out till the colour begins to show in the earlier flowers, and it does not mind a draught.

Those who grow these beautiful things generally grow far more in the nursery bed than can be used in the borders. Let them try the experiment now advocated with their surplus plants instead of digging them down. As many gardeners will soon be shifting the plants to their flowering quarters it may be that this suggestion will come as a word in season. E. P. F.

TUBEROUS BEGONIAS FOR BEDDING.

YEAR by year the tuberous Begonias come more into favour for bedding, and since they have been so much improved in growth, with the flowers standing up well above the foliage, they make a grand display, which is well maintained until we get frost, being even brighter when the nights get cool than in hot weather. It is possible to get a good display from seeds sown the same season, but it is better to rely on tubers of the previous season, which may be grown in a small space. The colours can then be selected, and any that are not of good quality discarded. Beds of mixed colours are very pretty, but small beds of separate colours give a more decided effect. Tubers started early in March require very little heat. Under cool treatment they make short sturdy growth, and so long as they are safe from frost the cooler they are kept the better. Before planting out the beds should have a liberal dressing of stable manure, and if this can be dug in some time before planting all the better. It seems impossible to make the ground too rich for Begonias, and I think if more attention were paid to this fact they would be still more appreciated. When the ground is deeply dug and well manured they require much less attention in watering. It is useless to plant in poor dry ground, for though the plants may live the flowers will be very small and the growth unsatisfactory. With pot culture the great secret is liberal treatment; large plants may be grown in comparatively small pots if liberally supplied with liquid manure, but care must be taken that the plants do not get too dry after manure has been used or the flowers will fall prematurely. H.

GAILLARDIAS.

THE perennial kinds have of late become so numerous that a distinct collection can easily be obtained; when well grown they are not only useful as garden plants, but the blossoms, when cut, last a long time in water, and as the stems are long and stout they can be utilised for all sorts of vase decoration. Plants growing in the open border commence to flower in May and continue quite into the autumn. Thus Gaillardias are valuable for either filling beds or for associating with other suitable subjects. Propagation is an easy matter; divide the roots in spring or early in the autumn, pricking out into nursery beds to get them well established before dry weather sets in in the spring, or before frost in the autumn.

Where the soil is heavy, cold, and retentive of moisture autumn propagation is the best, wintering the plants in a cold frame and putting them out early in April. Add to the roots of each a handful of old potting soil, decayed vegetable refuse, or wood ashes.

The following is a selection of choice varieties raised by Mr. B. Latham, Shirley, from the variety *oculata*, who has devoted much time and skill to this perennial, knowing so well its value as a hardy border plant. *Primrose Gem* produces medium-sized blooms of a pleasing shade of yellow or deep primrose; grown in a mass this is an extremely showy variety. *Rownham's Queen* grows to a full size. The colour is a fascinating one, being crimson in the centre with an outer margin of sulphur. *Brilliant* has a narrow crimson disc with a broad outer band of rich yellow which renders it a striking variety. *B. Lathams* is a gorgeous flower with a broad marking of crimson and a narrow outer margin of orange-yellow.

E. MOLYNEUX.

SOME ANNUALS FOR SUMMER BEDDING.

I TRIED last year a combination of *Mignonette* *Parson's White* and the dwarf annual *Toad-flax* (*Linaria reticulata purpurea*), and the effect was both pleasing and lasting. This dwarf *Toad-flax* is somewhat unique, so far as colour is concerned, in things of this height; it is very free, and lasts remarkably well. It also is effective when associated with the annual *Gypsophila elegans*; the latter, however, is comparatively short-lived, and the space which it occupies requires refilling before the summer is over. *Marigold Legion of Honour* is one of the best things in the yellow shades, and continues a regular sheet of bloom until the frost. So-called novelties are not always a success, but exception had to be made in the case of the dwarf *Delphinium Butterfly*, a very attractive plant, both in flower and foliage, lasting well, and also with a new dwarf strain of *Lantanas*. When to the above are added thoroughly good strain of *Verbenas*, *Petunias*, *Phlox Drummondii*, and *Nemesia* it is evident that an exceptionally fine show can be had through the summer months solely with the aid of annuals or plants receiving annual treatment.

Claremont.

E. B. C.

DWARF JAPANESE CHRYSANTHEMUMS OF THE PAST FIVE YEARS.

(IN REPLY TO "R. K.," ST. PETERSBURG.)

OUR space is unfortunately so limited that we cannot give more than a brief reply considering the nature of the question. Within a period of five years a Japanese variety may become popular and quickly drop out of cultivation; indeed, the popularity of a large proportion of the Japanese varieties is very fleeting. For this reason "R. K." will see how difficult it is to name introductions of some five years ago, but those described below are among those of late years. From your question we suppose you mean sturdy, dwarf, or rather dwarf plants, easily grown, not too late in flowering, and capable of producing five to six fairly large blooms, something in the way of *Soleil d'Octobre*.

Western King (1897).—A plant of good habit, snow-white, and will carry a dozen good blooms.

Emily Silsbury (1897).—A Japanese variety, very easily grown, pure white.

J. R. Upton (1899).—This is a very handsome yellow variety of Antipodean origin, sturdy, dwarf habit.

Le Grand Dragon (1898).—An excellent Continental variety; flowers orange-yellow, large, and full.

Marie Calrat (1898).—The flowers are developed from a late "crown" bud selection; colour rose and white; strong grower, dwarf.

Mrs. S. C. Probin (1896-1897).—A variety of easy culture, the flowers neat, of incurved Japanese form; colour silvery pink, good habit.

Livnet Humphreys (1899).—An easily grown variety; flower drooping; colour chestnut-crimson.

Mrs. Greenfield (1901).—A very handsome flower in the way of *Phoebe*; colour rich golden-yellow.

Mr. A. Barrett (1899).—Sport from *Mrs. C. Harman Payne*; colour dark rose on a chamois ground; distinct and pretty; sturdy and fairly dwarf.

Mrs. J. Bryant (1899).—Very large bright rosy pink flowers with silvery reverse; good habit.

Mrs. Coombes (1899).—This is one of the best of easy culture; flowers large, full, and bright rosy mauve; sturdy habit.

Mrs. Barkley (1899).—Like the last-named, an English-raised seedling; flowers very large,



CAMPANULA ABIETINA (NEARLY LIFE SIZE).

massive; colour soft rosy mauve, with bright silvery reverse; dwarf and sturdy growth.

Henry Weeks (1899).—A large rosy crimson flower, flushed carmine, reminding one somewhat of G. C. Schwabe, to which "R. K." alludes; good habit.

Madeline Davis (1899).—This is not quite so large as the majority, but the flowers are refined and pleasing; colour pearly white tinted violet; nice dwarf habit.

Mr. Louis Remy (1899).—A splendid yellow sport from Lady Ellen Clarke; dwarf, sturdy, and of easy culture.

Mrs. A. H. Hall (1899).—Easily grown; large, full, and soft bronze colour; dwarf, sturdy, and rather early.

Mrs. James Buisant (1899).—Another variety of easy culture, with large white flowers.

Reginald Godfrey (1899).—An October flowering variety, with large Japanese flowers; colour light chestnut-red, with a golden reverse; dwarf, sturdy habit.

Bronze Soleil d'Octobre (1902).—A beautiful bronzy fawn sport from the popular *Soleil d'Octobre*, partaking of the excellent characteristics of the parent variety.

Mrs. George Milham (1901).—This is an excellent type of the loosely incurving Japanese; colour bright rose-pink, with silvery reverse; good habit.

Calvat's Sun (1901).—An immense canary yellow flower.

Attraction (1901).—An October flowering Japanese variety, of a distinct soft apricot shade, tinted carmine; sturdy grower; of easy culture.

Mabel Morgan (1901).—A distinct and refined flower; colour a beautiful soft yellow; flowers of pleasing shape; excellent habit.

Miss Alice Byron (1900).—A refined incurved Japanese; pure white; the plant is easily grown and of excellent habit.

Lady Hanham (1897).—This is a well-known sport from Vivian Morel, and no collection should be without it. The colour is rosy cerise on a chamois ground.

Mme. Von André (1900).—A sport from Mutual Friend, and should be flowered from first crown buds. There is good reason to believe that there are two distinct spots in commerce, both bearing the same name. One is a sulphur-yellow colour, and the other a richer shade of the same; strong, sturdy grower.

Calvat's (1899).—A beautiful loosely incurved Japanese; colour pearly rosy mauve, slightly shaded yellow in the centre. The plant is not so robust as one would desire, but it is a variety for all collections; height about 4 feet.

Mr. T. Carrington (1899).—A large handsome incurved Japanese, somewhat similar in form to *Australie*; colour rich carmine-rose with silvery reverse; height about 4½ feet.

Mons. Hoste (1897).—An easily-grown continental introduction of good constitution, and about 3½ feet high; colour white, flushed rosy purple.

Matthew Hodgson (1897).—This variety is still valued for its distinct crimson-red colouring.

Mrs. G. W. Palmer (1897).—A claret-bronze sport from Mrs. C. Harman Payne, fairly dwarf.

Mons. Chenon de Lèche (1896).—One of the most distinct Japanese flowers, with recurving florets of medium width; colour rosy buff.

Master H. Tucker (1897).—A large exhibition flower of good colour, which may be described as rich bronze, flushed with red; it grows vigorously.

The Favorite (1901).—A beautiful rich apricot-bronze flower, tinted carmine-crimson; very sturdy.

The Princess (1901).—A large creamy white flower, the plant sturdy.

Lord Salisbury (1900).—A large drooping flower; colour rich bronzy yellow suffused with crimson.

D. B. CRANE.

TWELVE BEST BAMBOOS FOR SHELTERED PLACE.

I HAVE been asked to recommend the twelve most suitable Bamboos for planting in a fairly sheltered hollow in this part of the world. There are trees and bushes surrounding but not interfering. The

soil is medium loam, and plenty of peat and leaf mould are obtainable. The situation is not a wet one; I should say fairly damp, with a large pond not far distant. Is not April the best month for planting? Your help would be valued.

H. O. W.

[The following will be found suitable:—*Arundinarias*, *Hindsii* var. *graminea*, *japonica* (syn. *Metake*), *nitida* and *Simoni*; *Bambusas* *palmata* and *pygmaea*; *Phyllostachys* *Castillonis*, *aurea*, *Henonis*, *nigra* and *viridi-glaucescens*. If a dwarf one is not required replace *B. pygmaea* with *Phyllostachys* *Quiloi*. The latter end of April and first fortnight in May is the most suitable time to plant. If plenty of decayed leaves can be mixed with the soil so much the better. It is better not to use peat if it can be avoided. Plenty of water must be given during dry weather. If the climate is naturally mild, *Arundinaria* *nobilis* and *falcata* may be included in the list. Plant in April.—EDS.]

THE KITCHEN GARDEN. JUDGING EXHIBITION VEGETABLES

IN his excellent and interesting introductory chapter on the above subject in the issue of THE GARDEN of March 1, Mr. Beckett makes a proposition on judging that, I think, will not be generally agreed to by judges of experience—it is when he says:

"Much must be taken into consideration when judging vegetables, and nothing more so than the season. When making awards, for instance, through August and September during trying seasons, such as the two last, good dishes of Turnips, perfect in every respect, should receive the maximum number of points; but, on the other hand, when the season has been favourable to their production, these should not carry much weight." In theory the above proposition may seem reasonable, but is it practicable? How will it work out when put to the test? Let us see. Take as a case in point a large collection of vegetables exhibited at one of our great shows in the open class, for which valuable prizes are offered, tempting many growers from all over the country (especially in August and September) to compete for the honour of winning these coveted prizes. When the tent is cleared of all exhibitors and other interested parties and left in the hands of the judges and show officials, it goes without saying that the judges are absolutely ignorant (or ought to be) of whose collections they are going to judge or in what part of the country they have been grown. It is well known that in this country the weather at the same season of the year varies considerably in different counties. It may be extremely hot and dry in one part for a long spell, and therefore inimical to the perfect growth of not only Turnips but vegetables generally. On the other hand, at a distance of 100 miles or 200 miles in any direction, the weather may be all that is desired for vegetables.

Now comes the judges' difficulty. We will suppose there are five or six collections to be judged, and the principle of judging by points adopted. From those two will most probably stand out conspicuously as being the best, and, according to the total of points given to each, there may only be a difference of two or three points in favour of one, and this may not be the one grown under adverse conditions; to the other, according to this theory, we ought to add as many points as will make it better than that which may have been grown under more favourable conditions. The principle is the same, whether it is a Turnip or any other vegetable. If we accept this theory which Mr. Beckett recommends, how are we going to give practical effect to it, except by turning up the card to find out to whom it belongs and where it comes from (there is no other way of finding out), and to then surrender our judgments in favour of this accidental fact? Surely few judges are prepared to do this.

If the doctrine of differentiating between vegetables grown in one part of the country, and another according to whether the weather may be favourable or the reverse is to be an accepted creed, where will the system lead us to? Surely to hopeless confusion and unsatisfactory judgment. When judging vegetables, in my opinion it is no part of the judge's duty to inform himself as to the conditions under which they have been grown. He has quite enough to do for the moment to concentrate his attention on the merits of each individual dish as compared with others, and to give his judgment on their merits alone as they appear before him. At any rate, so it appears to
A GROWER AND A JUDGE.

EARLY CAULIFLOWERS.

WHEN it is stated that the well-known Snowball Cauliflower cannot always be obtained true the statement is rather a reflection on our seed trade, because it is to its interest to keep every good thing true. But Snowball, so well named, when first put into commerce in this country was so good a thing that it speedily met with the fate of many other good things, and when the stocks became plentiful was listed with a score of diverse names, and if under none of these names it cannot be found true then is there something wrong with its culture and seeding. The variety which some twenty-eight years ago came here from Denmark was first grown at Bedford and put into commerce by Mr. R. Dean under its now well-known appellation. On the packet of seed which originally came from Denmark no name was given, hence there was no impropriety in giving a name that so well befitted it, and by which later it became universally known. From its first introduction I grew the stock at Bedford till 1871, and others did so after me, raising seed every year. In that work it was my practice to mark two or three heads yearly that seemed to be of the very best and earliest form, and thus the stock was kept up to a high pitch of perfection. In Germany the stock became known later as the Extra Dwarf Earliest Erfurt. In a trial of Cauliflowers which took place at Chiswick in Mr. Barron's day our stock held its own with all synonyms. But before then and long since the Dwarf Early Snowball had become common property, and the quality of the stock depends absolutely on the care taken to keep it of the best. Raise plants each year by sowing in a cold house in February, pricking out into cold frames later, then transplanting with balls of soil on to a warm border early in May and getting beautiful heads from the middle to the end of June.
A. DEAN.

LETTUCE CONTINUITY.

THIS Lettuce is annually becoming more popular on account of its drought-resisting powers. With such a variety no one need be without good Lettuces, even in the hottest seasons. Other characteristics are its remaining in good condition long after other sorts have run to seed and doing well, even in poor soil. It is essentially an amateur's Lettuce, and indispensable for small gardens. It is of medium size, of a bronzy colour outwardly, the hearts being solid, crisp, and juicy. If sown in autumn and wintered in a frame it is very valuable in spring.
J. CRAWFORD.

UNTIDY CORNERS AND NEGLECTED CROPS.

GARDENS, like most other things, have a way of presenting the best side to the front. Care is usually taken that the beds, borders, walks, and grass plots that are exposed to public view are kept presentable, and while this is so there are often places behind the scenes, so to speak, that the gardener would prefer to be unnoticed. There may be every reasonable excuse for this kind of thing, for it is a well-known fact that in too many cases the labour is not sufficient to cope with the requirements of the establishment and some portions have to be neglected. If the gardener is an enthusiast it grieves him to find the work getting the master of him, and he struggles on

against the overwhelming force of accumulating work until it gets too much for him, and he has to see the back parts neglected if the front must be kept up to the mark.

As with places, so with crops. There are some of the latter, perhaps not of great importance, but still essential, that are accommodating enough to grow on year after year without much attention, and in consequence of this they suffer neglect. It is no part of my business to locate blame. Perhaps the gardener is the victim of circumstances, and if so he claims our sympathy; but it is none the less pitiable to a true garden lover to see corners untidy and neglected, crops suffering from the want of timely attention. A useful vegetable that often suffers for the want of proper cultivation is the Jerusalem Artichoke. It is a plant of few requirements, is accommodating as regards soil and situation, and is just one of those by-crops upon which a certain store is set on account of its usefulness; it is often, however, neglected, and has its revenge by spreading all over the place, eventually becoming a nuisance, and in too many cases I am afraid this is owing to the want of system. Because a few Artichokes are occasionally required a plantation is formed in some out of the way spot, where nothing else will grow satisfactorily, and the crop is left to take care of itself. When tubers are wanted they are lifted here and there in a haphazard sort of way, and the Artichoke

if a system of cultivation is followed. In the case of both these crops far more ground is often devoted to them than is necessary and better produce might be grown on half the area. There is no great art in growing Jerusalem Artichokes if the ground is deeply dug as early in the year as possible and the tubers planted 2 feet apart in rows 3 feet asunder. No further attention is needed beyond an occasional hoeing until the following November, when the stems should be cut down and the tubers lifted. The largest and best examples should be stored for use and the smaller tubers be reserved for the next season's planting.

No establishment requires more than a little Horse radish, but the roots should be straight and quickly grown. Such produce is obtained by opening a trench across the bed in November and working a little decayed manure in the bottom if the soil is poor. Then select some straight shoots, each one having a crown about 8 inches long and the thickness of one's finger. If these are planted about a foot apart each way and the crowns covered with a few inches of soil, roots may be

Cacti have a strange fascination for some flower-lovers, and certainly their quaint forms are interesting and many of them have beautiful flowers. Plants of great interest to me are those comprising the Phyllocactus group. These have flowers of glorious colouring, and are of very easy culture, for given an ordinary greenhouse anyone may succeed with them. A soil principally composed of loam with an admixture of sand and brickmakers' ballast or sandstone rubble will suit them perfectly. Over-watering must be specially guarded against, for though they may be kept pretty moist during the summer months, yet at the dull period of the year from their succulent nature they may remain a good while without water. A light, sunny spot in the greenhouse is also essential to their well-doing, for upon the thorough ripening of the growth resulting from full exposure to sunshine and careful watering during the dull season depends to a great extent the future display of bloom. Propagation of this class of Cacti is readily effected, for if a piece is broken off, potted, placed on a shelf in the greenhouse, and watered occasionally, it may be depended upon to root. The better class of flowering Cacti are, I think, increasing in popularity, and to the amateur with but little time (and that of an intermittent nature) to attend to them, they possess a great advantage over many other classes of plants.—H.



A CACTUS CORNER IN ONE OF THE HOUSES IN THE GARDENS AT CARTON, KILDARE

bed presents a mixture of straggling stalks, weeds, and accumulated rubbish. Nor is this the worst, for the plant has a habit of spreading and multiplying itself, encroaching on ground wanted for other crops, and the weakened growths only produce insignificant tubers that are a nuisance in the ground and useless in the kitchen. But eventually something has to be done. If only for the sake of appearance there has to be a clearing out, and the individual to whom this duty falls realises that though Artichokes are not difficult to establish, they are by no means easy to eradicate, and after much time and trouble have been spent in clearing the ground the young shoots spring up all over the place in a tantalising manner.

Another crop, too, often neglected is the Horse-radish. These roots are a commodity in the kitchen and are represented in every garden; but how many gardeners have reason to feel really proud of the Horse-radish bed? In many cases the ordinary visitor never sees it, for it is located somewhere in the background or on the outskirts, and never receives a professional visit except when the roots are wanted. Yet it may all be different

lifted the following autumn that will be appreciated in the kitchen. To grow a few roots in this way and to grow them well is far better than allowing Horse-radish to monopolise a large area of ground.

If any apology is needed for dealing with the treatment of two such easily grown crops in these pages I offer it on the ground that, while due attention is paid to more important plants, the two referred to are neglected as much in the Press as they are in the garden.

G. H. HOLLINGSWORTH.

CACTI AT CARTON.

A CORNER devoted to Cacti in one of the houses at Carton, County Kildare, is shown in the illustration. Many of the plants were raised from seeds supplied by Messrs. J. Veitch and Sons, Chelsea. They include some of the finer sorts of Echinocactus, Mamillaria, Echinopsis, Opuntia, &c. A collection of these plants, though not often seen, adds much to the interest of a private garden.—A. BLACK, Carton.

THINNING GRAPES.

PERHAPS more important to the professional gardener than to the amateur is this annual work, yet to both a knowledge of its proper execution is essential. The time will now soon be here when Grape thinning will be in full swing, so that they who have not yet given the matter a thought may be persuaded to do so. The amateur who is so unfortunate as to be obliged to thin his own bunches of Grapes rarely it seems to me realises the importance of doing it most carefully, if one may judge of the ill-shapen

bunches, containing a large number of small berries that should have been taken out, one so often sees.

One most important point is to commence early. It is surprising how quickly the berries increase in size when the flowers are fertilised, so that if one does not begin to thin the most advanced bunches directly they require doing, by the time one has reached the last bunches the berries have developed so much that it is practically impossible to remove those one ought without damaging in some way the remaining ones. If the viney to be passed over is at all a large one this will be all the more apparent. It is usually necessary to go over the bunches once again after they have been thinned, because it is not always possible to distinguish all the seedless berries when the bunches are but just developing. This second thinning, however, is more in the way of a revision. There may have been rather too many berries left the first time, and this can be better seen when they are larger. The shape of the bunch can also be finally corrected, and with more precision at the second thinning.

In the large Grape growing establishments to the

north of London, where hundreds of tons of fruit are sent to market during the course of the year, the work of Grape thinning is necessarily a very important one. A great deal of extra labour has to be obtained during the thinning season, and those who are engaged for a month or six weeks to perform this one particular work are drawn from various classes of society, forming an interesting and motley crowd; they are so numerous that the word crowd is by no means a misnomer. Under such circumstances it is not to be wondered at that the employers have drawn up a set of rules or instructions for thinning for the guidance of this army of workers. A copy or several copies of these instructions are placed in each vinery, so that all may read and profit by them. So concise and valuable are these rules that I reproduce them for the benefit of those who have not had the advantage of studying any written remarks upon this all important subject:—

Take hold of the bottom of bunch with the left hand. Do not touch it anywhere else.

Begin thinning at the bottom and work upwards.

Take out all inside berries, cross berries, and small berries first.

The berries you leave should be the big ones that point straight out, and the berries that stand out most are best.

The berries should be left about three-quarters of an inch apart.

Do not rub the bunches with your head or anything else, because it injures the bloom on the berry and makes the Grapes look shiny when they are ripe.

Cut the stalks in close.

Keep your scissors clean, they will cut better.

Do not put your scissors through the bunch to thin the other side, you should move round the bunch.

Always thin the bunches with the biggest berries first. A. P. H.

CORRESPONDENCE.

(The Editors are not responsible for the opinions expressed by their correspondents.)

VEGETABLE EXHIBITING.

[TO THE EDITOR OF "THE GARDEN"]

SIR,—With Mr. Beckett's aspirations for a wider recognition of the importance of vegetables in horticulture I am in full sympathy; but I do not wish to see created a national vegetable society, as we have too many special societies now, and they become a very heavy burthen on horticulturists. Whilst the provinces, as he has shown, do so much for vegetables at exhibitions, Shrewsbury being specially liberal and producing a wonderful display, I should like to see the Royal Horticultural Society exhibiting more partiality for them. A great vegetable competition at the Crystal Palace would enhance the somewhat monotonous attractions of the great September fruit show. But the Palace Company, whilst willing to have a huge display of these products, much of dubious quality in August, will not have them otherwise—action which seems rather inexplicable. However, I do not know that our leading growers, such as Mr. Beckett, are anxious to go to the Palace, but they would I am sure be immensely pleased if the Royal Horticultural Society would give them a special field day at the Drill Hall either on September 23 or October 7.

I fear the council looks askance at vegetables; indeed, it is noteworthy that in its recommended list of books for examination students, not one is included on vegetable culture. So far as my experience goes it will be difficult for exhibitors to improve on their present methods of staging. So good are they now that a collection of superior vegetables becomes a perfect and a beautiful picture. The chief defect is found in the practice of cramming exhibits too closely, and especially in not allowing wide space between each competing collection in a class. However pleasing as is good setting up, it is quality which wins points, and

setting up at the last moment in a close run gives a deciding point or two. There is far less difference as to what constitutes quality in the estimation of judges now than used to be the case. They have learned to realise that size is far from being everything. Exhibitors also have not been slow to learn, and they now seldom stage coarse products except they be raw hands. As to pointing, I fear it is difficult to set up any method which shall take special cognisance of value of one kind of product over another.

When a collection of some six, nine, or twelve dishes is called for the terms of the class practically put every dish or kind on the same footing, and I think it is fair it should be so. A dish of Turnips may be an inferior vegetable relatively, but it is only good culture that can secure them, and in that respect they are on a par with Peas, Runner Beans, Potatoes, Tomatoes, or Cauliflowers. Were only six or nine kinds asked for no exhibitor would put up Turnips or Marrows, but when twelve dishes are asked for then it is the quality of the minor vegetables which affects the awards.

As to the actual cooking merits of diverse varieties of vegetables, and in none is there anything like the difference which exists in Potatoes, it would be practically impossible for judges to take into consideration what cannot be evidenced there and then. Soils govern quality in Potatoes so much that even were all the dishes shown in a competition of the same variety the most perfect and handsome dish may be the worst to cook. But it may be the other way. When a class is for so many dishes of vegetables, distinct kinds without other conditions, then it is evident that by the framers of the class each dish is held to be of equal relative merit and as such awards must be made.

A. DEAN.

PROPAGATING TREE PEONIES.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—I notice that on page 102 Canon Ellacombe mentions his Tree Peonies throwing up "suckers from the stock, which are clearly P. arborea, and very different to the scion." The same has occurred in a garden I often visit, where some large Tree Peonies, brought from Japan many years ago, constantly throw up suckers of the same nature as the scion which bear flowers of a different tint. These plants are evidently grafted on tree and not herbaceous stock, and this, curiously enough, is not the well-known type P. Moutan, but a variety producing semi-double flowers of a rather unpleasing rose-purple tint. All the bushes are grafted on the same stock, which in some cases has entirely supplanted the scion owing to its not being discovered until too late that the growths emanated from the stock and not from the scion. Much has been written on the folly of grafting the Tree Peony on the herbaceous P. albiflora stock, but where this censured practice has been followed, if any shoots are thrown up by the stock, which I believe is rarely the case, they are easily distinguished from those of the scion, whereas when the Tree Peony stock is used the similarity of form and foliage renders this difficult.

S. W. FITZHERBERT.

THE BOTHY.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—In reference to the discussion that has been taking place in your valuable paper, I would like to say that I have had several years of bothy life, and think the majority of bothies are much inferior to what might be expected, considering what the young gardener has to contend with. In the first place, I consider journeyman gardeners are about the hardest worked and poorest paid young men in the country, considering that most of them have to work almost every day in the year, and in several places that I could name from 6 a.m. until 6 p.m. After a hard day's toil they have to betake themselves to the bothy to spend the evening, as in most cases residences are some distance from a town. I quite agree with "S. P." in your issue of February 22 regarding a bath-room. I think it is one of the first essentials in a

bothy, where very often in large establishments one will often find as many as eight and ten young fellows living together and sometimes nothing but a hand basin about 1½ feet in diameter and 6 inches deep. Such conditions as these I think ought to be remedied, and doubtless would be if brought under the notice of the employer. Again, regarding a woman to look after the young fellows. There are not many men who, after doing a day's work, care to go in—after having tea, which has to be prepared by themselves—and wash up the day's dishes and brush the floors and make the beds. By the time this is finished one has to go on duty and then to bed. Life is therefore merely work and sleep. E. J.

FIBRE ROOTS AND TAP ROOTS.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—“Do fibre roots and tap roots exercise different functions in feeding the tree?” is a text given by “R. F. H.,” December 21, to which your correspondent “Practice with Science” replies on page 46. To one unacquainted with the scientific aspect of gardening there is danger of treading on treacherous ground when one takes upon oneself to differ with scientific writers; but, though your correspondent converses so ably on the subject, there still to my mind seems yet a problem unsolved. It is quite possible that “R. F. H.” has not traced the tap roots to their extremity; it would need some speculation as to the probable depths that would have to be probed ere the extremity of some of the stronger thong roots would be found, and I am not sure that any useful purpose would be served by such a laborious undertaking. “The surface roots find themselves,” your correspondent says, “in a medium containing abundant soluble plant food, and, consequently, having no need to elongate, produce abundant fibres to absorb the nourishment so close to them.” If this is true, then why do they not remain near the surface, which should be so congenial to them? The experience I have gained from my own observation is that no matter how much nourishment may be provided on or near the surface there is an attraction in some soils at least, if not all, that tend to draw the roots downward. An instance occurs to my mind, as I write, of a very good fruit grower who, at one time, had charge of a moderate-sized private garden, well furnished with Cordon and Pyramid Apples and Pears. His practice each year was to take a fourth of the trees in hand, the garden being intersected by paths dividing it into four quarters—these were taken in rotation. All were not, of course, treated to a course of root pruning, but there were each year a fairly large proportion that needed surgical aid. I have in that garden seen trees, the second year after root pruning, with roots so thickly matted near the surface that digging with a fork would be impossible, from the toughness of the closely interlaced roots, yet these same trees, in course of time, again changed their root habit and probed the soil deeply with thongs, then producing leaves rather than fruit. The fertility of the surface was kept up by the annual manuring, so that the theory of roots quitting the surface because the surroundings were not congenial could not apply in this case. Many other like cases could be named.

How does “Practice with Science” reconcile the fact that—with trees having their roots deeply burrowing in apparently uncongenial surroundings, and making growth vigorously and being practically barren—they can become transformed into freely-fruited trees by simply changing the course of pruning, and without in any way interfering with the roots or their culture? I have, and so probably have many other readers of THE GARDEN, seen unpruned and vigorous shoots become literally roped with fine fruit; so much so that supports had to be given to prevent them breaking under the heavy burden. It is common knowledge that the prospective crop of this year is already in an embryo state, stored in well-ripened buds, and it is yet possible, by cutting off vigorous roots to cut off the crop too, from lack of proper support from the fewer active roots remaining. It is not quite certain whether thorough drenchings of water

would put right this extreme change of attitude, but certain it is that very many root-pruned trees have to make the best of circumstances under the conditions so often imposed.

Fibrous roots and tap roots would seem to exercise different functions, or, if they do not do this, they certainly have different influences. Roots of a fibrous nature favour shorter growths and an abundance of fruit spurs; tap roots produce a corresponding vigour of branch, which is not allayed in root pruning unless all are severed. Instances are not wanting where trees have been encircled with a trench as deep as it seemed necessary, and all offending roots—save one—severed, this one being accidentally left. The result, though not invariable, is sometimes attended with an undiminished vigour the following year, necessitating the repetition of the work another winter.

It does not seem logical that the water absorbed by a fruitful tree should be rich in food constituents while the vigorous tree is fed only on unenriched water. There is evidently a much greater power behind the tree that is full of vigour in branch and root than in one of less vigorous habit, but it does not appear clear what the difference is that causes two such opposing influences in the fruitful and the barren tree. Trees and shrubs will be found to revel in soil that, compared with that of the cultivated garden, appears extremely poor and inert, and in which, if vegetables or flowers were planted, would probably cause only failure. Even grass and weeds refuse to grow in some soils brought to the surface from the lower layers of the earth in which tree roots have, judging from their luxuriant condition, found something they liked. Perhaps, as "Practice with Science" remarks, their function is "to pump up water with what little nitrates it may contain," but it seems remarkable that when the vigour of the trees is acknowledged it can be said that what they do absorb must be described as poor. In fruit trees it is poor because it is unprofitable, not because there is an absence of energy. Bearing on this there are to my mind problems yet unsolved.

W. STRUGNELL.

HARDY FRUITS IN SEASON.

PEAR DIRECTEUR ALPHAND.

THIS fine stewing Pear, which we have now the opportunity of illustrating, was included amongst desirable varieties to grow in the list given in our issue of February 15 by Mr. Thomas, and we here reproduce what was then said of it: "This is one of the latest of stewing Pears, ripening any time between March and the end of May, and for this late season is one of the best. The flesh is slightly tough in texture, but is sweet with a pleasant aroma and pure white in colour." We are indebted to Messrs. James Veitch, Limited, Chelsea, for an opportunity of figuring most of our hardy fruits in season.

GARDENING OF THE WEEK.

CHRYSANTHEMUMS.

REPOTTING.

NO fixed date can or should be advised for repotting the plants into 5-inch or 6-inch pots—the condition of the plants should be the guide as to this. Nevertheless, if all has gone well with them many will by this date be quite ready. The secret of success in the culture of high-class Chrysanthemums is to keep a watchful eye on them and attend to their various wants at the right moment. As soon as the pots become fairly well filled with roots no time should be lost

in making preparations for potting them on, selecting all the more robust for the larger size, and, of course, the weaker ones for the smaller.

PREPARATION OF THE COMPOST.

Too much care can hardly be bestowed on this. It is most desirable that the mixture should be prepared several days before using, and turned frequently, so that each ingredient becomes thoroughly incorporated. Good fibrous loam of medium texture should form the principal part for this potting, choosing that which was cut and stacked during last autumn. Use sufficient fine charcoal, fine mortar rubble, and coarse sand to make it porous, and to every four bushels add a 6-inch potful of bone-meal, and Clay's or Snyth's Fertilizer. The pots and drainage should be of the cleanest and the crocks arranged carefully. Select the plants and the number that can be conveniently grown and attended to, a matter which should be well thought out, as frequently the enthusiastic cultivator attempts to grow more than can be properly attended to and cared for in the autumn. Proceed with the potting, making quite sure before that each plant has been well watered. It will be necessary to remove carefully just the largest of the drainage, doing as little damage as possible to the roots. Pot firmly, note that each is correctly labelled, secure the plants with a neat stake, sprinkle them over with a fine rose water-can just sufficient to settle the surface soil.

WHERE TO GROW THE PLANTS.

Choose, if possible, a southern aspect, but a good open position, and arrange the plants in cold frames, standing them on boards or a good bed of cinder ashes. Every inducement should be afforded the plants to recover from the slight check as speedily as possible by keeping them close for a day or so, and frequently sprinkling them over with tepid water on bright days. Should the weather be very bright a slight shading will be beneficial for a few hours during the middle of the day rather than giving air too freely till the plants become established. After three or four days thoroughly water with a fine rose watering-can, filling up the pots at least three times to

ensure every particle of the soil becoming thoroughly moistened. Green and black fly are almost certain to attack the young leaves, but these can be easily kept in check by dusting them during the evening and syringing out the following morning; this should be repeated about every ten days. Abundance of air should be given as the plants commence to make new growth, especially in mild, genial weather. Remove the lights entirely on such occasions; when east or north-east winds are blowing tilt the lights in an opposite direction.

POMPONS.

These will not require repotting for another fortnight or three weeks, but pinch out the points to induce them to make several breaks, and the same applies to both early and late-flowering kinds for decorative purposes.

SPECIMEN PLANTS.

Pot on as they require it, and train out and stop so that the necessary number of breaks is ensured as soon as possible. Cold frames will answer well for these now. Border varieties, if properly hardened, may now be safely planted where they are intended to flower. No one having a garden should fail to cultivate a collection of these charming autumn-flowering plants, as they are certainly worthy of a good position, and to see them at their best a fairly wide border should be devoted to them. Considering the little attention they require it is indeed surprising they are not more generally grown. "EXHIBITOR."

KITCHEN GARDEN.

FRENCH BEANS.

LITTLE difficulty should be found in keeping up a good supply of these where sufficient glass is at command. Whether they are grown in pots or planted out very little fire-heat will now be required during the day. Except when there is no sun thoroughly syringe the foliage twice daily and maintain a moist atmosphere or red spider is sure to prove troublesome. Good sowings should at once be made in boxes or small pots for planting



PEAR DIRECTEUR ALPHAND. Original $4\frac{1}{2}$ inches high, $3\frac{1}{2}$ inches wide.)

out in cold pits or frames. These will give good returns until pickings can be made from the open ground. Canadian Wonder and Ne Plus Ultra are both excellent and reliable kinds for this purpose.

TOMATOES.

The earliest plants ought now to be well advanced and will require to be top-dressed and liberally supplied with manure water to ensure their finishing a good crop. Expose the fruits to the sun and light as much as possible, and remove all surplus shoots. Tomatoes are often badly infested with a small white fly, and when once it becomes established is very difficult to get rid of. On first appearing fumigate several nights in succession with XL All. One or two applications are of little use, for many insects are merely intoxicated and rise again the next day.

THE DISEASES

which frequently give much trouble both in relation to the fruit and foliage are caused principally by too moist and stagnant an atmosphere, and as prevention is much better than cure every care should be taken to prevent its making an appearance by a free circulation of air. Successional plants should be potted on as they become ready, and kept as sturdy as possible. Sow at once for outside culture that good strong plants may be ready by the end of May.

BEETROOT.

Small quantities of the Turnip-rooted Beet may be sown on warm borders for early supplies, but it will be necessary to afford the young plants some protection from frosts.

BROCCOLI.

The later kinds which were layered, such as Late Queen, May Queen, and Model, should have all decaying leaves removed and the ground stirred deeply about them.

The earliest sowings of Celery which have been pricked off into boxes should be grown in a genial temperature, so that no check is given, or in all probability much of it will run to seed. Later sowings may safely be pricked off when quite small, either in cold frames or on sheltered borders, where they can be protected from cold drying winds and frosts. The surface should be dressed over with a fine light sandy compost to give the young seedlings a start.

Late sowings of Leeks may be treated in the same way as those of Celery, but those intended for early use should be kept under glass another fortnight.

E. BECKETT.

Aldenham House Gardens, Elstree, Herts.

FRUIT GARDEN.

PLANTING VINES.

In the southern counties at least suitable varieties of the Grape are well deserving of culture upon walls or buildings having favourable aspects. Not only are they useful, but also ornamental, and the present is a suitable time to plant. In doing this it is not necessary to make an expensive border, for an efficiently drained good loamy soil broken up about 2 feet in depth, containing some old mortar rubble or broken bricks, will answer. The canes may be planted at varying distances as convenient, but 6 feet apart is suitable for a high wall, which will permit of three rods being vertically trained at 2 feet apart from each Vine. Spread the roots to their full extent in the surface soil, which make firm and mulch. The old Sweet-water is an excellent outdoor Grape, and a new variety recently figured in THE GARDEN named Reine Olga has been highly recommended.

FIGS.

These may now be safely planted, and warm sites upon walls that have either south or west aspects should be chosen for the purpose. Failure with the Fig not unfrequently results from the roots being allowed the run of too much space, which causes exuberant wood growth at the expense of fruit. The remedy is restriction of root growth, either by pruning or a limited border. The latter, although it is the more expensive, is nevertheless the more satisfactory means to adopt,

and in carrying it out the height of the wall must be taken into consideration. For a wall from 12 feet to 15 feet high, a well-drained border 5 feet in width and 2½ feet in depth, composed of four parts good loam and one of crushed old mortar, with the addition of a little wood ashes, having a root-proof wall and a concrete bed, will be suitable. For planting preference should be given to young trees established in pots, which should have the soil washed from their roots, the latter disentangled, regularly spread, firmly covered with about 3 inches of soil, and mulched with short litter. White Marseilles and Brown Turkey are good hardy varieties. The protecting material should now be removed from

ESTABLISHED FIG TREES.

Provided the pruning (which merely consists in thinning out old wood to afford young fruitful branches room to develop their foliage and admit the sun) was done in the autumn immediately after the leaves had fallen, all that now remains is to secure the branches to the wall. This should be neatly done by regularly distributing the principal ones in fan shape, and as far as practicable laying in the young wood between them, leaving unyielding short ones in their natural positions. A few inches of the surface of the borders should be removed and be replaced with fresh compost, enriched more or less with chemical manures.

T. COOMBER.

The Hendre Gardens, Monmouth.

THE FLOWER GARDEN.

NEMESIA STRUMOSA SUTTONI.

With its profusion of Linaria-like blossoms and graceful habit, is such a delightful hardy annual and so simple in its culture that it is impossible to use it too freely. I find it singularly well adapted for growing in shallow flat vases or decorated boxes for placing on low walls and terrace balustrades, where, if the vases are filled each with a distinct colour, they are decidedly effective. *Nemesia strumosa Suttoni nana compacta* is similar to the above, but the flowers are smaller, and, as its name denotes, is more compact in habit. So far it is impossible to get it in other than mixed colours, but they are of lovely shades, and look equally pleasing in vases. The seed may be sown almost any month of the year, but the present is a good time to sow to have the plants in flower during

MAY AND JUNE.

If sown in light sandy soil and placed in gentle heat they quickly germinate. When strong enough after being hardened by being removed to cool frames the seedlings should be pricked off into the vases or boxes in which it is intended to flower them, using a good rich compost of loam, leaf-mould, and cow manure, and allowing 2 inches between each plant. They remain in flower for a long time, and are exceedingly attractive. For small beds the *Nemesias* are also equally useful. Another splendid subject for flat shallow vases is

THE PORTULACA,

which can also be kept in distinct colours, and as some are very brilliant an excellent display is produced. Terra-cotta vases, 3 inches to 4 inches in depth, and filled with very sandy, light soil, suit the *Portulaca*, and the best plan is to sow lightly into the vases where the seedlings are to remain. Thin out afterwards, though the seedlings transplant readily enough. Once placed in the warm sun on the walls of the terraces they grow and flower very rapidly, and remain effective throughout the summer. The end of April is soon enough to sow the seed in the borders, and even then it is advisable to make raised beds of sand for them. If this is done they will sow themselves year after year without requiring further attention other than thinning. The hotter and drier the season the better will they thrive; for any dry portion of a bank nothing could be nicer than the *Portulaca*.

MENTHA REQUIENI,

a small creeping plant thickly set with minute, dense foliage, with a delightful peppermint odour, and one very easily propagated by breaking it up

into small pieces and inserting them in boxes of leaf-mould, is a plant that I am freely using for growing in the chinks of steps and in the cracks of the stones on the paved walks of the garden. Together with tufts of Moss, small Ferns, and *Linarias* it gives a pleasing effect to the stone walks, and it is only necessary to fill up the chinks between the paving with leaf-mould to cause it to spread rapidly.

HUGH A. PETTIGREW.

Castle Gardens, St. Fagans.

INDOOR GARDEN.

GLOXINIAS.

TUBERS started now should not be grown in too much heat, but afforded an intermediate temperature with a fair amount of shade. Such plants bloom well, and the flowers are brighter than those produced in a higher temperature. Dryness at the root or in the air is most injurious, therefore a moist atmosphere should be maintained during the time the plants are growing: avoid overhead syringings. Air must be carefully admitted without causing a draught, which is very hurtful.

ACHIMENES.

Successional batches of these should be started. Planted in baskets *Achimenes* form lovely and effective plants. The baskets should be lined inside with fresh sphagnum moss, and beginning at the bottom insert through the wirework the little tubers. When the growth is 1 inch or 2 inches in length place them in tiers at a distance of about 3 inches apart, filling in the soil as the work proceeds, and finish by filling up the centre with strong plants. Afford sufficient water to thoroughly moisten the soil, and hang them up in a warm, moist temperature, syringing them daily. When established, an occasional watering with weak liquid manure will be found very beneficial. *Begonia Gloire de Lorraine* is another beautiful plant for baskets, and may be treated similarly to the above. For filling baskets for the greenhouse the Ivy-leaved *Pelargonium*, *Campanula isophylla*, *Fuchsias*, *Torenia*, and *Tropaeolum Vesuvius* are all useful. Coleuses that are well-rooted in their pots should be transferred to larger ones; the compost used should consist of turfy loam three parts, leaf-mould one part, with charcoal and sand added. Keep the plants near the glass, and well expose them to the sun to produce a rich colour in their leaves.

BALSAMS.

Seeds should be sown now in small pots, thinning out the seedlings to one per pot, and shifting them on as the roots reach the sides of the pots, until placed in their flowering pots. They should be kept near the glass whilst growing, and given a moist atmosphere. A very rich compost should be given them and plenty of drainage allowed, as they require a large amount of water, with occasional doses of liquid manure, when established in their flowering pots. Show, fancy, and decorative *Pelargoniums* that are coming into flower should be neatly staked and tied down and shaded from sunshine, affording plenty of air. Give them Clay's and soot water occasionally.

These *Pelargoniums* are especially apt in all stages of their growth to suffer from green fly. Fumigation is a certain cure, but is best used as a preventive.

JOHN FLEMING.

Wexham Park Gardens, Slough.

ORCHIDS.

MANY plants are now showing signs of renewed activity, but it is not necessary to hurry them too quickly through maintaining a high temperature, yet a rise of a few degrees may now be given with advantage. The following temperatures should now be maintained: *Phalaenopsis* house, 70° by night and 75° by day; stove and warm *Cypripedium* houses, 65° to 70° night and 70° to 75° day; *Cattleya* house, 65° night and 70° day; *Dendrobium* house, 65° to 70° night and 70° to 75° day; Mexican house, 60° night and 70° day; cool intermediate house, 55° night and 60° day; cool houses, 50° to 55° night and 55° to 60° day, rising above these figures by

sun-heat. With increased temperature, combined with a greater amount of sunlight, more moisture in the atmosphere will be needed.

SHADING.

This will now require careful attention. Never allow the blinds to remain down a minute longer than is really necessary. Such plants as *Phalenopsis*, *Bolles*, *Batemannias*, *Pescatoreas*, *Cypripediums*, *Nasdevallias*, and *Odontoglossums* are quickly injured by too much sunlight, yet a little morning and afternoon sun in early spring and late autumn when not very powerful is beneficial even to these. *Cattleyas* and *Laelias* enjoy a greater amount of sunlight, but this must not be carried to excess, for it soon causes the leaves to turn yellow. *Laelia anceps* and *Dendrobiums* need all the sunlight now obtainable.

VENTILATING.

On all favourable occasions air should be freely admitted by the lower ventilators to the cool and cool intermediate houses, but the cultivator must not be tempted to admit air too freely to the warm houses, for cold winds and bright sunshine at this season often come together and cause the temperatures to rise far above those specified. Sudden changes of temperature caused by improper ventilation soon show their evil effect on warmth-loving plants.

WATERING.

During the early spring months watering needs great care, as much so as at any season of the year. Many plants then commence to grow, but these should by no means be watered too freely. This applies to bulbous plants generally, and *Dendrobiums* in particular. The young growths when 2 inches or 3 inches long are very tender, and owing to lack of sunlight very sappy. If, therefore, water is applied to the roots too freely, or the atmosphere around them kept too moist, they are apt to decay, or, as it is generally termed, "damp off."

REPOTTING CATTLEYS.

Cattleyas, like most *Orchids*, must be disturbed at the root as little as possible, at the same time always keep them in a good, sweet compost, and within bounds of their receptacles. *Cattleya Warneri* and *Cattleya schilleriana* begin to grow early in the year; the same are now growing freely, and both should receive a moderate supply of water at the root. *C. Warneri* should remain at the warmest end of the *Cattleya* house, and *C. schilleriana* at the warmest part of the stove until growth has finished.

Cattleya gigas, *C. gaskelliana*, and *C. labiata* are now beginning to grow, and should be repotted or top-dressed. Those that need repotting should be turned carefully out of their pots or pans, and in the case of valuable varieties it is best to break their receptacle rather than injure the roots. Those grown in baskets are more difficult to liberate. The suspending wire should be removed, the pins of the baskets cut, and the bars carefully removed one by one. When this is done carefully remove all sour material and cut away all dead and decaying roots and any back bulbs that are old and shrivelled (if the plant is a valuable one these bulbs should not be cut away). Prepare clean pots of sufficient size to allow the plants to grow on at least two years without being disturbed. Lay one large crock at the bottom of the pot, and so place the plant that the back bulb touches the side of the pot and the base of the plant is level with the rim. Carefully work in the crocks among the roots, filling up to within 2 inches of the rim, and over the crocks place a thin layer of moss, filling up the remaining space level with the base of the plants with equal proportions of peat and sphagnum moss, pressing the same moderately firm, and trim off neatly. Plants repotted should be sparingly watered until the growths are well advanced and the roots established in the fresh material. *Cattleya gigas* is best grown suspended at the warmest part of the *Cattleya* house, or placed on a stage which will admit of its being in a similar position. *C. labiata* and *C. gaskelliana* thrive well under ordinary *Cattleya* house treatment.

F. W. THURGOOD.

Roslyn Gardens, Stamford Hill, N.

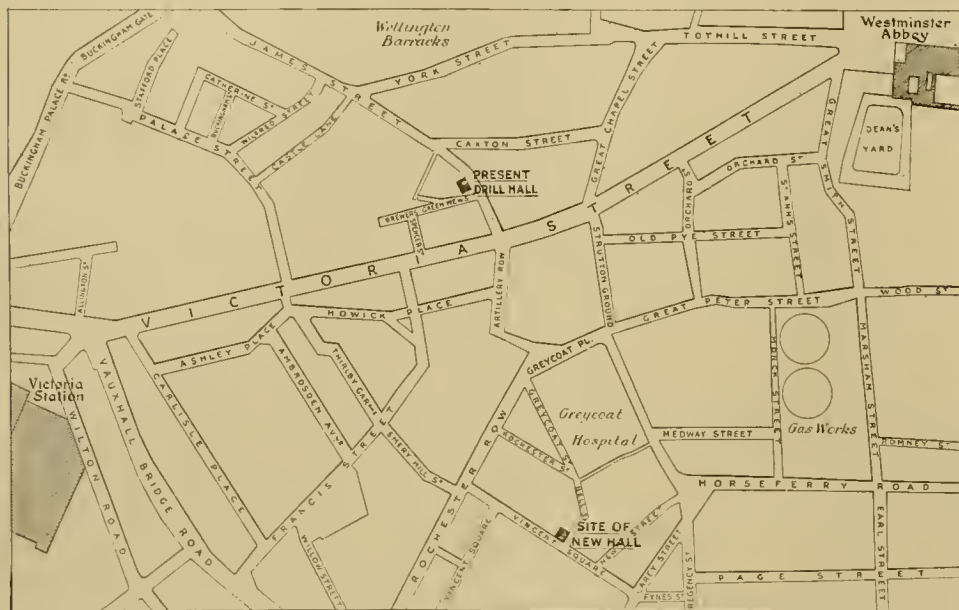
THE ROYAL HORTICULTURAL SOCIETY AND ITS NEW HALL.

ON Friday last, the 21st inst., a specially convened general meeting of the Fellows of this society was held at the Drill Hall, Buckingham Gate, Westminster, for the purpose of receiving a report presented by the council (and consisting of the report of a committee to the council, and of a memorandum of the council) with reference to a proposed new horticultural hall, and to consider a motion in support of this. In our issue of the 15th inst., page 169, the report and memorandum were printed in full, so that it is unnecessary to here reproduce them. The members of council present were Sir Trevor Lawrence, Bart. (president), the Earl of Ilchester, Captain Holford, Messrs. Harry J. Veitch, Frederick Lloyd, W. Marshall, J. Hudson, H. B. May, and Rev. W. Wilks (secretary). The number of persons present was about 250, and amongst them were Dean Hole, Sir W. T. Thiselton-Dyer, Sir Michael Foster, M.P., Sir Alexander Arbuthnot, Sir Frederick Wigan, Bart., Messrs. C. E. Shea and Bennett-Poë.

The minutes of the last general meeting and the notice convening the present meeting having been read by the secretary, Sir Trevor Lawrence rose to speak. Sir Trevor said that he had an important motion to propose, a task that he approached with a proper sense of responsibility, but would first make a few introductory remarks. Up to the present juncture the action of the Fellows of the society had been practically unanimous. It was impossible in so large a society that such should invariably be the case, but a difference of opinion was not at all incompatible with an earnest desire for the welfare of the society. He did not anticipate any heated discussion, and he thought they might perhaps set an example to an august body that meets in the immediate neighbourhood. The centenary of the Royal Horticultural Society was a great occasion, and many of those present would like to see this occasion suitably celebrated. As the society has grown in numbers, so also has it grown in repute. Although the general policy of such a society as theirs must be submitted to a general meeting of the Fellows, yet the details must be left to the executive, i.e., the council. Many of the Fellows consider that either of the alternative schemes before them to-day is desirable, but they cannot possibly have both a garden and a hall. To which of the two shall priority be given? My own opinion and also that of several other members of council, is that looking at the history of the society, its good reputation, and the ever-increasing interest in horticulture, it will possess a hall and a garden before the present century has passed its youth. Are there weighty reasons that priority be given to the hall scheme? I venture to think there are. It has long been felt that this Drill Hall is but a makeshift. The light is very bad, it is draughty, noisy, and inconvenient for the holding of lectures, and the society has entirely outgrown the accommodation here provided. Now we have had offered to us a suitable site within four hundred yards of Victoria Street (here Sir Trevor pointed out on the large map behind him the exact site and approaches. These may be followed upon the sketch plan of the site and the vicinity that we herewith reproduce). There had lately been a great increase of Fellows, 900 last year and already over 300 this year. This had entailed a great increase of office work, and it was now impossible to carry on the latter at the society's office in Victoria Street. The motion he has to propose will be to provide a new hall. This it is hoped will attract more Fellows; proper accommodation for the holding of the exhibitions, lectures, for council rooms, library, &c., will advance the interests of the society. They had already received promises (entirely voluntary) of £8,000. Sir Trevor then proceeded to detail the arguments in favour of a new garden. The Chiswick garden, he said, has practically ceased to be suitable for a garden. The dryness of the soil has been much increased by the continual building operations taking place around. No one

disputes the statement that the Royal Horticultural Society should have a good garden in which to conduct scientific, experimental, and practical work. Still for another twenty years they have Chiswick, and they had recently learned that the surrender value of the lease is a much less valuable asset than they had believed. Exhaustive enquiries made had shown the great difficulty in obtaining a convenient and suitable site for a garden near London. He thought the balance of the advantages was in favour of a hall. Sir Trevor then referred to Baron Schröder and the consistent and valuable support he had always given to the Royal Horticultural Society. Sir W. T. Thiselton-Dyer and Sir Michael Foster had also worked hard for the society in its South Kensington days. A year ago Baron Schröder asked for a committee to consider the question of a new hall. He devoted himself to matters of finance connected with it, and personally inspected several sites. He thought so highly of that in Vincent Square that he acquired it rather than it should be lost. Baron Schröder has promised £5,000 to the building fund of the new hall if this site is accepted. Sir Trevor went on to say that financial and structural details could not be discussed at a general meeting. The plans and estimates were not yet ready. The council proposed to act as follows: To ask for a sum of £25,000 from Fellows and their friends. Messrs. H. J. Elwes, Sutton, and N. N. Sherwood had each promised £1,000. The council would confidently appeal to the Fellows to raise this sum. They do not wish to draw upon the invested funds of the society, and it was thought that the expenses would be defrayed from the income. Some of the latter would, it was hoped, be obtained by letting the hall. Sir Trevor read a letter from Baron Schröder, who is at present in the Riviera, regretting his inability to be present, and trusting the Fellows would approve of what had been done and raise the necessary funds. "He had subscribed towards the fund from his great interest in horticulture and love for the society. It was unworthy of them to remain longer at the Drill Hall. They would probably have an opportunity of using Vincent Square for their spring exhibitions if the Temple Gardens should fail them." Sir Trevor then put to the meeting the following motion: "That the Fellows of the Royal Horticultural Society in general meeting assembled accept the principle of building a new hall in celebration of the centenary of the society, and hereby adopt the report laid before them this day by the council. They also desire to record their approval of Baron Schröder's public spirited conduct in securing a site, which they heartily adopt, and hereby authorise the council to take the necessary steps to enable the building to be opened in the year 1904."

Sir W. T. Thiselton-Dyer, K.C.M.G., seconded the motion, and said that he had great pleasure in doing so. He had long looked forward to this day, ever since thirteen years ago when they were turned out of South Kensington. Since leaving this latter place a new policy had been adopted, and had proved to be a great success. To-day they were asked to realise the position of the society, and to show the public what the horticultural community really is. The society has devoted itself entirely to the cause of horticulture, it has not continuously needed the Horse Guards' band as an accompaniment to the study and appreciation of flowers. It has been so nobly supported in its endeavours that now it is in a position that even the most sanguine never expected to see it. Now we should have adequate and suitable accommodation for the holding of shows, meetings, lectures, for the official staff, library, &c. When the Drill Hall was first taken a temporary agreement only was entered into. Sir William then referred to a visit paid by the King (then Prince of Wales) to their first Temple show, and the remarks then made by His Majesty. "I sincerely hope that your labours may be successful, for I feel sure a hall would be of great advantage." May we not now re-echo those words? The advantages of a meeting place, now served by the Drill Hall, where one could see everything new in the horticultural world, and that proved such an important business centre were immense. He



PLAN SHOWING SITE OF PROPOSED NEW HALL OF THE ROYAL HORTICULTURAL SOCIETY.

appealed to them to support the policy of the council. Sir William emphasised the references to the support given by Baron Schröder, and went on to say that the reserve fund, at his instigation, was instituted with the object of using it for the purpose of providing a hall. Although it was far better to leave the reserve fund alone if possible, the above was the reason of its inception.

Mr. C. E. Shea then rose to propose the following amendment to the motion already given by Sir Trevor Lawrence: "That this meeting be adjourned to this day fortnight, at the same time and place if possible, and that in the meantime copies of the report be sent to all Fellows." Mr. Shea said that he supported the council in their previous scheme for a new garden, and that now he was not prepared to agree with what was placed before them to-day. Look before you leap. It was impossible to obtain the opinions of the Fellows unless all were appealed to. Sir Trevor Lawrence had formerly spoken in favour of a new garden with equal eloquence as he had to-day advocated a new hall. He (Mr. Shea) would like to know that the step being taken was taken with the clear knowledge and approval of the Fellows. He had reluctantly resigned his seat on the council of the Royal Horticultural Society because he felt that he could consistently no longer retain it. The question before them to-day was said to be that of the hall alone, but let them see that in creating a hall they did not destroy the prospect of the garden. The society's position had been declared to be so flourishing as to cause them almost to ignore financial considerations. The present Drill Hall and the society's Journal had done much to build up their present success. Mr. Shea went on to point out that the annual increased expenditure would be about £1,000, and he asked, Can you be sure that you will not be compelled to encroach upon the investments? The matter resolves itself into the question of a garden or a hall. A year ago the council said a garden was necessary. Let the Fellows of the society be consulted and speak for themselves. Those not present are likely in the future to be discontented. Go safely forward. Let the matter be adjourned and carefully considered. He had discharged what he thought to be his duty on retiring from the council in bringing this amendment before the Fellows of the society.

Mr. J. T. Bennett-Poë seconded the amendment. He had felt constrained to resign his seat on the council because he had no assurance of this matter being placed before all the Fellows. The bye-laws provide that the whole body of Fellows should be consulted upon important items of expenditure.

Sir Alexander Arbuthnot thought the amendment

a most reasonable one, and he should characterise its rejection as an act of great unwisdom. The great body of Fellows have no practical information as to the details of this measure—it was a leap in the dark. He did not see how the meeting could reject this very moderate amendment. It was very important that all should know more fully how matters stand. He spoke with great hesitation against the council, but thought in this case a pause was required to weigh facts that should be better known.

Sir Michael Foster hoped the amendment would not be pressed. He thought those not there were entirely responsible for their absence. The sending out of papers was not a good way of ascertaining the opinions of Fellows. Those present were those most interested. Was this matter not yet ripe for action? Why postpone it for a fortnight? Ever since leaving South Kensington the society had been looking for a hall. A good hall was the very thing to make the society more prosperous, and so enable them to have a garden also. One of the duties of this society is to carry out experiments in its own garden. Perhaps even more important, however, than its scientific aspect was the opportunity afforded of seeing new flowers, fruits, and vegetables, for it is thus that it appeals to the public. Baron Schröder's offer should undoubtedly be accepted.

Dr. Maxwell Masters said they must wait for a garden. They were at present only in lodgings, and all lodgers hoped at some time to have a house of their own. When they possessed the house then a garden would be wanted. He trusted Messrs. Shea and Bennett-Poë would see their way to return to the council. The splendid present opportunity of acquiring a site would not be likely to recur, and the society should not miss it. Surgeon-Major Ince could not support the amendment.

Mr. George Gordon said he heartily supported the moderate amendment. He thought they should have definite statements with regard to the financial aspect of the question.

A Member from the country (whose name was not given) knew nothing of the particulars, and thought the council would surely want country members to know all about the new scheme. They should not consider the amendment hostile.

Mr. A. W. Sutton thought those who came to the shows were the best supporters of the society, and considered the present meeting qualified to vote. It would be a mistake to refer the matter to all the Fellows; many knowing nothing of the ins and outs of the scheme might swamp the motion. He supported the motion.

Dean Hole hoped that the Fellows would not lose

this grand opportunity. He was sure that the acceptance of the resolution before them would tend to the improvement of the society. The Dean remarked that to look before you leap was not always wise. He had been a fox-hunter, and knew that if you did you often would never see the hounds again. You have a good horse, put him to the fence.

Sir Trevor Lawrence then put to the meeting Mr. Shea's amendment, which was lost by a large majority. The original motion was then put, and was carried almost unanimously.

A vote of thanks to the Chairman closed the proceedings.

SOCIETIES.

HIGHGATE HORTICULTURAL SOCIETY.

ON several occasions within recent years it has been rumoured that this old society had finished its course of usefulness. It is all the more pleasing therefore to report that the society has taken a new lease of life. Mr. E. Chitty, who has acted as secretary for some years, resigned his office at the last annual general meeting, but the executive committee have been fortunate in securing the services of a younger man for the post, and it is hoped that the new secretary, supported by a good committee, will infuse new life into this excellent institution. It is now reported that the forty-third annual exhibition will be held at Parkfield, Highgate, in July next, Mr. Walter Springour having kindly consented to place his beautiful grounds at the disposal of the society. Like many other suburban horticultural societies, the inroads made by the modern builder into the limited number of beautiful gardens which were available at one time, makes it increasingly difficult to find proper accommodation for an exhibition of the kind this society is in the habit of holding.

READING AND DISTRICT GARDENERS' ASSOCIATION.

A VERY pleasant evening was provided at the last meeting of the above association by Mr. A. Wright, of Bucklebury Place Gardens, Woolhampton, on "A Berkshire Garden; How it was Laid Out and Planted," which he illustrated by over forty lantern views, prepared from photographs taken by himself at different periods of the formation of the garden. An interesting discussion followed, in which the president (Mr. Leonard Sutton), Messrs. Stanton, Neve, Exler, Lees, Fry, Powell, and Judd took part. The exhibits were exceedingly good, the honorary ones being staged by Mr. Townsend, Sandhurst Lodge Gardens (a collection of twenty-two varieties of Helleborus and three varieties of Iris stylosa); Mr. F. Bright, Whiteknights (a group of splendidly-grown Fuchsia); Mr. Alexander, The Gardens, St. Mary's Hill (Cyclamen); whilst Mr. F. Lever, The Gardens, Hillside, staged a collection of Violets for the society's certificate, which was awarded him by the judges. Five new members were elected.

BRISTOL AND DISTRICT GARDENERS' ASSOCIATION.

THIS association held its meeting at St. John's Rooms on Thursday, the 13th inst., when Mr. Daniels, of the Newport Gardeners' Association, gave a paper on the "Cultivation of the Cineraria," and, under the chairmanship of Mr. A. J. Hancock, a very instructive and enjoyable evening was spent. Judging from the discussion which followed Mr. Daniels' address it was obvious that the Cineraria is very much in favour with the gardening fraternity of the district, and as the essayist remarked it was deservedly popular on account of its free-blooming qualities, making it an indispensable plant for conservatory and house decoration, especially the new type, *Cineraria stellata*, which is extremely floriferous and most useful for cutting. Since 1777 the Cineraria has undergone many improvements, and, thanks to our horticulturists, has now reached perfection, both as regards colour and size of bloom, and no greenhouse is complete without a few plants of this useful plant. Mr. Daniels gave his experience and mode of culture in a clear and concise manner, the best composts, feeding, and general treatment being described in a practical way. Insect pests, he remarked, did not forget the Cineraria, and he gave many useful hints for their eradication. His paper was a worthy one, the audience appreciative, and the Newport Association is to be congratulated in having such a member as Mr. Daniels. He was accorded the best thanks of the meeting for his paper. Prizes for two Cinerarias were awarded as follows: Alderman W. Howell Davis (gardener, Mr. Curtis) taking first honour, while Mr. A. Cole (gardener, Mr. Bird) ran very close with second. Certificates of merit were given to Dr. Heale for *Calla elliptica* and *Dendrobium atroviolacea*, and to Mr. Gilbert Howes (gardener, Mr. White) for *Phaius grandiflorus*.

BECKENHAM HORTICULTURAL SOCIETY.

IN lecturing on "The Improvement of Plants by Selection and Hybridisation," Professor J. Percival, M.A., F.L.S., said sporting takes place occasionally in plants such as *Chrysanthemums*, *Roses*, *Pelargoniums*, *Carnations*, and other plants that have been grown for ages, but does not occur in plants such as *Dahlias* which have only been under cultivation for about a century. To get variation or improvements in such things it is necessary to cross fertilise. Very little variation takes place in the first cross, is often increased in the second, and sometimes goes forward with leaps and bounds in the third and fourth. The lecturer was accorded a very hearty vote of thanks. Mr. Webster exhibited some remarkable sticks of the Sutton Rhubarb, grown at Kelsey Park Gardens.

THE GARDEN

No. 1585.—VOL. LXI.]

[APRIL 5, 1902.]

THE HALL OF THE R.H.S.

NOW that the council of the Royal Horticultural Society has decided that a Horticultural Hall is to be built, all who have the credit of the Society at heart will wish to see such a building as will not only be perfectly convenient and suitable for its uses, but that will have such dignity as befits the home of a body whose beneficent work affects the happiness and welfare of so large a number of people.

We have all along held that the need of a hall and offices of the Society's own, distinct though this want is, was of secondary importance to the greater need of a new garden with enlarged educational opportunities. The council of the Society has decided otherwise, we trust rightly and wisely, and we hope that the building in contemplation will be good and beautiful as well as absolutely fitting. We hope to see a design that is simple and dignified, and trust that no money may be spent on meretricious ornamentation. This does not mean that we wish to see another Drill Hall. Beauty and dignity do not necessarily depend on what is commonly and often erroneously called ornament; it depends much more on good proportion, and balance and harmony of parts, with, perhaps, slight enrichment in just the right places. Good design and construction for the most part form their own ornament, and there is no need to drag in colossal figures in high relief of Flora on the one side and Pomona on the other, pouring out the ample sculptured contents of their respective cornucopias.

A matter that we shall hope to see very carefully considered is the internal colouring. For on a wise choice of this the chief effect of the shows will depend. Nothing is simpler than to do it rightly, and nothing could more effectively spoil the whole as a place for showing flowers and foliage than to make a wrong choice of colouring.

THE ALPINE HOUSE.

THE illustration recently given in the pages of THE GARDEN of the Alpine house at Kew is of great interest, and will help to emphasise the value of simple glass structures for the protection of winter-flowering hardy plants. Our gardens have been vastly enriched of late years, notably with Irises and other early-flowering bulbs, through the unremitting exer-

tions of collectors in the mountainous districts of Asia Minor, China, and elsewhere. Many of these are still too rare and scarce to be trusted to the open ground without further experience. Others, though perfectly frost-proof in actual hardiness of constitution, are too delicate in flower to stand repeated climatic variations without injury. Others, again, require to be brought near the eye for their full beauty to be understood. Such plants, until well established in public favour, which is a slow process, are, as a rule, exiled to cold frames in some out-of-the-way quarter of the garden, where their fate not unnaturally is to be forgotten by all, save their growers. If the average amateur, however, has them brought under his notice in flower in an alpine house he cannot fail to appreciate their beauty, while the practical student may learn a hundred lessons by comparison of different modes of treatment, through which he can better his own gardening.

Notes of the very different behaviour of the same plant growing in localities widely separated, yet still within the limits of the British Isles, prove the advantage of giving such slight but adequate protection where it is needed. Take, for example, the new *Primula megaseæfolia*, recently commented upon in these columns. It has been a pleasure to watch the gradual unfolding of this charming Caucasian Primrose in a cold house during this changeable winter. In the hardest weather it has never once looked back, as gardeners express it, and its pretty purple, orange-eyed flowers are only now, in March, on the wane. Some may prefer to give up all but those plants that will stand complete exposure out of doors without injury. So be it, but in that case they must banish in most parts of the country a great deal that may make for the charm of the winter garden. As a rule, we plant in hope, and then, as a correspondent forcibly puts it, suffer again and again the pain—for pain it is—of seeing frustrated efforts to flower in some of the choicest and best of our possessions. The complete happiness and safety, during severe weather, of protected early-flowering plants is in itself a joy to an ardent gardener, while the comparative duration in bloom comes as a surprise, and may be counted in many cases by weeks. It is well to corroborate statements of this kind by actual dates. *Primula megaseæfolia* aforesaid had opened its first flower on January 15, and on March 12 is not yet quite over, though past its best. *Cyclamen ibericum*, at the same

early date, was well set with buds with a few full-blown flowers, and lasted in perfection until the first week in March. *C. Coum*, which had buds as early, but developed them much more leisurely, is now at its best. Out of doors as yet only a few flowers of either species have opened.

Merendera caucasica was in flower under glass on January 23, and now, six weeks later, has just passed out of bloom. In the open it was pushing up flowers on February 4, which were fully expanded on February 25, after which they soon withered. A longer list might be given, but these examples are enough to show the value of shelter, not from frost merely, for it is not cold that these hardy plants fear, but from wind and rain and intermittent sunshine.

The glass house which suffices to protect hardy bulbs and alpine plants during their flowering season from stress of weather may be of the simplest construction, and of such a pattern as to be generally within the reach of anyone who can boast of a garden at all. It must be entirely unheated, with ample ventilation, and the only indispensable adjunct is some form of light removable shading. Such a house is, however, pre-eminently of use to the experienced connoisseur, who knows how to deal with his plants when they are at rest no less than during their flowering season, and for him it will possess the greatest charm. It would be quite possible to rise to an alpinery under glass of a higher grade than the one illustrated, in which a form of rockwork might be adopted, with some permanent planting of suitable shrubs, allowing at the same time for successive changes in the flowering plants. But a simple structure with the usual side stages is enough for all practical purposes, and this at least should be an appendage of all good gardens. The staging, moreover, serves the excellent purpose of bringing the flowers into nearer range of vision. It is scarcely possible to see the beautiful structure of the fragile alpine *Epimediums*, now in flower in the cold greenhouse, when they are on the ground level, and the exquisite pencilling of the low growing *Iris* flowers is hidden even from clearest eyes, when they can only be looked down upon from the height of a man's stature.

In the earliest weeks of the year, to pass from the most carefully planned rock garden into a well-ordered alpine house, is a revelation to anyone who sees it for the first time. The open garden has its own winter beauty, and

even when ice-bound is full of promise for the future, but the alpine house bridges over an interval which without it must in the main be flowerless for the hardy gardener. Here spring is already triumphant, and we may forget for a while that frost and fog and relentless winds have still to do their seasonable duty.

KITCHEN GARDEN.

BOLTING CABBAGES.

IT is not unlikely that we shall shortly hear complaints as to spring Cabbages bolting. This undesirable feature is often attributed to the effects of the winter on the plants, though some have imagined that the time of planting governs the defect to some extent. But it does seem as if it were more due to variety than to any other cause. Some varieties seem never to bolt off to flower prematurely. Others, such as Nonpareil, Dwarf York, Coleworts, &c., do invariably bolt freely the first spring. They do not show that habit if from seed sown in the spring; still it seems to evidence that the true Cabbage-hearting habit is not in them so fully developed as is the case with others. I recently had a conversation with Mr. Arthur W. Sutton, who always takes great interest in this subject, respecting the average habits of certain varieties the Reading firm have secured stocks off, and which I saw last spring to be remarkably good in the Reading firm's seed grounds, whilst many other varieties had from 20 to 70 per cent. of bolters. He kindly promised to look up the data as recorded in their trial book and send it to me, and that information has come to hand. By that I find in four years' successive trials, 1898-1901, Sutton's April, with forty-one stocks or trials, gave six bolters only; Sutton's Flower of Spring, with fifty-two trials, gave fifteen bolters. I should say that as each trial comprised twenty-six plants, the total number of April was 1,066 and of Flower of Spring 1,352, so that the proportion of bolters was hardly noticeable. Sutton's Favourite, with twenty-seven trials or 700 plants, gave thirty-one bolters, and Sutton's Imperial, with 600 plants, gave but twenty-eight bolters. It is worthy of note, as showing that season has some small connexion, that the year 1899 gave a far higher percentage of bolters—viz., forty-eight—than did the other three years with thirty-two only. A. DEAN.

NOTES OF THE WEEK.

Examination in horticulture.—The Royal Horticultural Society's annual examination in the "Principles and Practice of Horticulture" will be held on Wednesday, the 23rd inst. Intending candidates are requested to send in their names to the Secretary, Royal Horticultural Society, 117, Victoria Street, London, S.W., as early as possible. A stamped and directed envelope must be enclosed with all communications requiring a reply.

Royal Horticultural Society.—The next fruit and flower show of the Royal Horticultural Society will be held on Tuesday next, in the Drill Hall, Buckingham Gate, Westminster, 1 to 5 p.m. A lecture on "The Construction of Pergolas, and on Plants for them and for Verandahs," will be given by Miss Gertrude Jekyll, V.M.H., at three o'clock. At a general meeting of the society held on Tuesday, the 25th ult., fifty-two new Fellows were elected, amongst them being Sir Edmund Hay Currie, Sir George Meyrick, Bart., the Dowager Lady Pelly, Lady Jessel, Hon. Mrs. M. Glyn, Major N. Pochin, and Major A. J. Saunders, making a total of 357 elected since the beginning of the present year.

Primula Allioni.—We are wondering if this pretty little Alpine gem, which is now flowering in the rock garden here, is properly understood. It is popularly supposed to resent damp on the

foliage. It was planted here last spring in two positions, one where it was simply impossible to give water without wetting the leaves, the other where we could water it from behind, and where the light was more or less subdued. In the former position it is flowering freely and looking extremely healthy. In the latter position, where it is supposed to have the condition natural to its native habitat, it has made little or no progress. Our impression is that, if the watering is done after the sun has gone down, no harm will result to the foliage, and the plant can be kept in a growing condition and produce its lovely little blooms in profusion.—A. FINDLAY, *Grey Towers, Nunthorpe.*

The Winter Heliotrope.—In a recent number of THE GARDEN a correspondent recommended your readers to cultivate the Winter Heliotrope (Coltsfoot). I should strongly advise them to have nothing to do with it. A good many years ago I was induced, by the glowing descriptions of its rich perfume in the depth of winter, to plant a root of it in one of my borders. It was not long before I discovered its wandering character, and I determined to root it out; but, in trying to do so, I found that it had already started for New Zealand, taking the short cut, and I was unable to catch it up. I was at my wit's end, when I remembered having read that any plant could be destroyed by continually cutting off all growths appearing above ground. I adopted this plan, and at last broke its heart. I also planted it on the sloping bank of a road leading over a railway bridge. Of this it has taken full possession, and nothing else has a chance of growing there. Anemones, Primroses, &c., are choked out of existence. Another plant that I find a great nuisance is one of the Arums that I got from the Continent in my green days. This has, so far, beaten me, as has also one of the Alliums. In trying to root them out you are sure to leave some little tuber or bulb behind, and all your labour is in vain. Chemists are very properly obliged to put a red "poison label" on dangerous drugs, and I think nurserymen should be compelled to attach "poison labels" to dangerous plants of this kind.—JAY AYE. [We heartily agree with our correspondent on the danger of admitting the Winter Heliotrope into gardens, but surely he makes a slip of the pen in calling it Coltsfoot. Coltsfoot is the yellow-flowered Tussilago Farfara. Winter Heliotrope is Nardosmia, syn. Tussilago, syn. Petasites fragrans. Among these ineradicable pests should be also noted Ornithogalum nutans.—Eps.]

South African Peaches in England.—The South African War has temporarily checked a formidable rival of Canadian fruit growers in the British markets, especially in the line of tender fruits, such as Peaches and Plums. Fortunately, however, these fruits are marketed at an entirely different season from those grown in Canada, and reach Covent Garden in January and February, when we have no Peaches to ship, so that the rivalry will always be of a friendly nature. So long ago as 1896 Cape Colony began to wake up to her great capabilities for the production of Peaches for export to Great Britain, and in 1897 the second consignment by the "Roslin Castle" was sold in Covent Garden on January 9 and 10. There were 709 cases of Peaches, and these were readily sold at from 7s. to 12s. per box of twenty fruits, the higher prices being for Freestone Peaches and the lower for Clings.—*Canadian Horticulturist.*

Mr. A. C. Hartless, from the Government Cinchona Plantation, Mungpoo, has taken over charge of the Curatorship of the Royal Botanic Gardens, Calcutta, from Mr. G. T. Lane, who has gone home on six months' furlough to regain his health.

Lonicera fragrantissima.—This winter-flowering Honeysuckle is rapidly gaining in favour as it becomes better known, and is now being used in many gardens in positions that are easily accessible during the winter, and where its fragrance can be appreciated. It commences to bloom at the latter end of December, and continues until April or later, the flowers expanding whenever the weather is at all favourable, while, in addition, they will withstand 6° or 8° of frost

without injury. Their presence is often made known in the first place by their sweet Honey-suckle-like scent, which is especially prominent if the sun is shining, no matter what the weather is otherwise, unless it happens to be freezing very hard indeed. A few sprays of it cut and placed indoors will last for a considerable time, and there are very few persons indeed who dislike the scent, which seems like a breath of summer, so different is it to the majority of scented flowers procurable in winter. *L. fragrantissima* is a native of China, and is nearly or quite evergreen, but should not be confounded with *L. Standishii*, which somewhat resembles it, but which is deciduous, while the flowers are practically scentless. The former is easily grown, and with age makes a spreading shrub about 6 feet high, and as much or more in diameter. It is easily propagated by cuttings of the half-ripened wood taken in summer, or pieces of the thicker wood cut into lengths of 6 inches or 8 inches root readily outdoors in October.—J. C., *Bayshot, Surrey.*

Royal Gardeners' Orphan Fund.

—I cannot help thinking that all gardeners might give a small sum to the above society this year as a Coronation donation, and that with other help we might invest the money to enable us to meet one of those bad years that come to all societies sooner or later. When I started the Royal Gardeners' Orphan Fund I thought all gardeners would subscribe most willingly, but after fifteen years I find them less ready than at first to do their share in helping. I do hope I shall see more letters written advocating this institution. I was more than surprised in reading a will the other day of nearly a hundred thousand pounds obtained entirely from agriculture and horticulture that both the farmers' and gardeners' benevolent institutions were forgotten.—CHARLES PENNY.

Seedlings of *Scilla sibirica alba*.

—What a terrible thing it is for a bulb to have blue blood in its veins! Take the pure white variety of *Scilla sibirica* for instance. I saved seed from it, hoping at least to get some light varieties, but much to my disappointment the seedlings, one and all, have given flowers darker than the type, and of a very dull shade, as though they had gone into mourning for the sin of their mother.—JAY AYE.

Seeds of yellow Snowdrops.

—What queer ways some bulb seeds have! Those of *Galanthus lutescens* and *G. flavescens* lay dormant in the ground for three or four years; in fact, they were coming through the ground when seedlings of the ordinary variety in the same box, sown at the same time, were coming into flower. And now these seedlings are flowering there is not a tinge of yellow marking in any one of them. Why should they have waited in the ground so long before they made up their minds to grow?—JAY AYE.

Scottish Horticultural Association.

—The dinner in celebration of the semi-jubilee of the Scottish Horticultural Association, held on the 21st ult., passed off most successfully, no less than 120 members being present. From a detailed report in the *Scotsman* we gather that the association is in exuberant health and high spirits. Mr. McDonald, Dundee, was happy in the expression of his praise of the society on account of the educational benefits it provided, and in his interesting speech referred to the work being overtaken in Dundee among school children, a show held there recently having brought out between 3,000 to 4,000 exhibits from the children. Mr. Comfort, president of the association, thought something of the kind might be attempted in Edinburgh. Among kindred societies represented was the National Chrysanthemum Society by Mr. R. Dean, the Highland and Agricultural by Mr. MacDonald, the Royal Caledonian by Mr. Murray Thomson, the Royal Arboricultural of Scotland by Mr. Galloway, and the Sweet Pea Society by Mr. Cuthbertson.

Cassell's Dictionary of Gardening.

—With Part XI. of this publication is presented a coloured plate of *Lilium*s, viz., *L. speciosum* Melpomene, *L. s. Kratzeri*, and *L. Henryi*. The genus *Lilium* is also treated at length in the letterpress and some photographic illustrations given. Part XI. concludes with *Mamillaria*.

Eradication of Prickly Pear.—

Dwellers in parts of the country where the Prickly Pear is a pest will be glad to learn that experiments carried out at the Hawkesbury Agricultural College, New South Wales, proved that arsenite of soda, in solution, 8lb. to 80 gallons of water, sprayed on to the plant, destroyed it, root and branch. The best time to apply the solution was found to be when the sap was active.—*Indian Gardening and Planting.*

Present to an Irish gardener.—

We are very pleased to note that the late president of the Irish Gardeners' Association and Benevolent Society, Mr. J. O'Kelly, The Gardens, Dartry, Upper Rathmines, was recently the recipient of a very pretty souvenir of his term of office, in the shape of an exquisitely engraved gold pendant bearing his monogram and an appropriate inscription. The presentation was made on behalf of the society by the newly-elected president, Mr. F. W. Burbidge, M.A., who referred in suitable terms to the many excellent qualities of Mr. O'Kelly.—*Irish Gardener.*

Woburn Fruit Farm.—

The returns from the Woburn Fruit Farm for the past year, which have just been completed, show some highly interesting results. It is too large a question to go thoroughly into in such a short note as this, but in the demonstration plots, for instance, the returns range from £50 to £80 per acre. When this farm was started it was predicted by those who had known the land well for more than half a century that fruit growing there was sure to fail, and those who do know the land and the unfavourable circumstances which there prevail will agree that only the best possible management could produce results anything approaching it. These results are not "calculated theoretically," but are the actual sales, retail and wholesale, the average prices of all qualities being taken, so that there is no bumping or exaggeration. It is well known that with the system of grading some of the Apples made very high prices, and we have no doubt that some of the fruit, if taken alone, would amount to a much higher total per acre. The farm has only been established a few years, and has not yet come into full bearing, but the returns show what fruit Bedfordshire land will produce under the best cultivation, good management, and the needful outlay.

Cornus Mas.—

This early-flowering shrub is worthy of a place in the garden, as it forms a spot of bright colour throughout March, which is very attractive, especially when seen against a background of dark evergreens. I saw a fine plant of it about 8 feet high a few days ago amongst some large Yews, which were behind and on both sides of it, and the effect was very fine indeed. The flowers are very small and of a bright yellow colour, and are borne in clusters of twenty to thirty all over the leafless branches. They are followed in the autumn by oval fruits of a bright red colour, from the size and appearance of which the plant has obtained the common name of Cornelian Cherry. *C. Mas* is a very easy plant to grow, as it will do well almost anywhere, and in any kind of soil, but it responds readily to generous treatment, and soon forms a tall, thick bush, which is a pretty sight both in spring and autumn. It can be propagated by seeds and by layering.—*J. C., Bayshot, Surrey.*

Tulipa Korolkowi bicolor.—

This, the smallest known Tulipa, yet the most brilliant of any, would be likely to interest lovers of miniature rockery plants. It grows 6 inches in height, has three narrow lance-shaped leaves of different sizes, and bears but one flower the size of a Filbert when closed and measuring 1½ inches in span when fully open. The petals are mainly coloured yellow, the three outer ones are heavily tipped with green, the lower two-thirds of each is entirely coloured a rich glowing vermilion, richer on the inside but very conspicuous on the outside also. The short filaments are coloured vermilion, and they support golden yellow anthers. The centre of the flower is zoned with black. It is the brightest of all the early Tulips known to me—a very fascinating little flower indeed. A warm position on the rockery or among kindred plants in a warm border suits it well; it is perfectly hardy and in no wise difficult

to grow. It belongs to the early flowering set comprising Lownei, kaufmanniana, and the like. Like most Oriental Tulips it is very liable to make "dropper" bulbs, thrusting them quite below the cultivated stratum in shallow soils and disappearing altogether in soils of a deep tilth. Planted on a rockery where it could get a good baking during the ripening of growth it will lose this disappearing tendency to a certain extent, though it may reappear at a lower level in the following season.—*Geo. B. Mallett.*

Rudbeckia "conspicua."—The practice of giving quasi-botanical names to garden varieties of a species is objected to by all botanists and by most of the leading amateur gardeners. Such names are never recognised in botanical works or botanical collections, and as no authorised description of them is to be found there is no standard to which they can be referred, so they are confusing. If such flowers are worth a distinct name it would be better to name them *Rudbeckia hirta*, Latham's variety, or variety Mars, or some other fancy name; then everyone knows that they are garden varieties and is not misled. I may observe that *R. hirta*, which is generally biennial, is of different habit from the perennial and running *R. speciosa*, which is a native of moist soils, and in very dry gardens requires watering and top-dressing in hot dry weather to keep it healthy. *R. hirta*, which makes one branching stem, often has larger flowers and is taller than *R. speciosa*, and being a native of drier soils resists drought better. I find *R. hirta* never becomes finer than when a seedling comes up at the edge of a gravel walk and is allowed to flower there, a privilege granted to many plants in this wet garden.—*C. Wolley Dod.*

—This cone flower was named by Messrs. Ladhams. It is a selection from *R. hirta*, which they have cultivated for the last five years in their Shirley nurseries. The advantage of this *Rudbeckia* over such as *R. speciosa* is that it does not suffer so much from drought. Plants of *R. conspicua* growing last year in Messrs. Ladhams' nursery in nothing but gravel flowered continuously and abundantly all through the hottest and driest weather, whereas the type and *R. speciosa* were dried up immediately. It matters not who names a plant if it is worthy of the name given, and in this instance I can assure Mr. Wolley Dod no mistake has been made in so doing.—*E. M.*

The mole cricket.—I should be very glad if any readers of THE GARDEN who have had experience with this objectionable beetle, and especially on poor tennis lawns, will say if they have succeeded in eradicating it without digging it out and thoroughly renovating the soil. In small places that are continually springing up in this neighbourhood, so-called tennis courts are formed on practically the natural soil, which is very poor, with the result that in a year or two the grass goes to the bad, and the ground is invaded by the above insect. Personally I am unable to offer advice other than to remove the poor soil and replace with better.—*E. B. C.*

A fortunate gardener.—Mr. John Dick, lately deceased, one of Glasgow's merchant princes, and who had amassed a large fortune as a guttapercha manufacturer, left his gardener, Mr. David Nicholl, a legacy of £1,000. About fifteen years ago Mr. Dick presented a park to Glasgow, stipulating that the plants should be allowed to grow naturally, and perhaps few of the many city parks give more pleasure than this.

No grey Scilla bifolia.—How is it that we have no grey-flowered *Scilla bifolia*? Pale blue or rather pale purple forms are very frequent, and white, alabaster white, and shades from the palest pink and flesh colour up to rich pink; there is also light purple-pink of several shades. One would imagine that grey would be the natural result of mixing the typical colour with the albino form.—*JAY AYE.*

Spring-flowering bulbs.—I have observed that some of the spring-flowering bulbs which seed very freely make but little or no increase at the root. With the *Chionodoxa* this feature is very pronounced. In 1885 I selected a very fine form of this, and although it has flowered

and seeded freely from then till now there is but the one bulb still. It seems to me that these plants use up all their strength in producing seed and are unable to do more. The best forms of *Scilla bifolia*, especially the white and pink varieties, make slow progress at the root. The hybrid *Chionoscillas*, although free seeders, give more increase at the root than either parent.—*JAY AYE.*

Buddleia globosa.—This delightful shrub is quite hardy in North Wales, and has pretty ball-shaped orange-coloured blossoms, and lanceolate leaves, pale green above and whitish below. The plant when grown on a wall attains a height of 8 feet or 9 feet, and sometimes more. The *Buddleia* is easily propagated from cuttings of the well-ripened shoots, which should be procured about September, if possible with a heel of the older wood, and inserted in sandy soil in a shady position, a bell-glass being placed over them until they are well rooted.—*J. DENMAN.*

Coronation tree planting.—As there seems to be a great probability of a large number of trees being planted as memorials of the Coronation of King Edward VII., I might suggest that, to avoid the danger of trees dying by being planted at such an unsuitable time of the year, all those who intend to adopt this mode of commemoration should, before it is too late, secure trees that have been transplanted, and have them properly prepared and put into suitable boxes or tubs in a compost that would ensure a large amount of fibrous roots being made before June, and by this means and careful planting the disappointment occasioned by the death of the trees would be avoided. Well-shaped trees should be selected at once, standard trees, with stems 10 feet to 12 feet, with good heads; coniferæ and evergreen shrubs, 3 feet to 5 feet, of not too old a growth. Trees of these dimensions would be easy to handle, and would probably do better than larger specimens. The most suitable style of box would be one with all the sides to remove; these could be easily made by running an iron rod through eyes, with a nut on the top to keep the box together; when planting remove the nuts and lift up the sides, the tree could then be carefully removed to its permanent position.—*H. HAVELOCK, Meric Moor Nurseries, Downfield, near Dundee.*

Bignonia venusta.—It must, I am sure, have been an accidental omission on the part of "A. P. H.," page 197, not to mention this, one of the finest of all Bignonias. Like several of the others, it is a free-growing climber that needs a large structure for its development, but when these requirements are met, and the plant, as generally happens, is in the autumn or winter laden with its clusters of brilliant vermilion-coloured tubular-shaped blossoms, it forms a scene of unparalleled beauty at that season. I well remember my first visit to Syon House Gardens, when Mr. Fairbairn was gardener there, now over thirty years ago. The sight that made the most lasting impression on my mind was a fine old specimen of this *Bignonia* in the large conservatory there, which was just then at its best. It has been my lot to see it since under similar conditions, but of course without the great charm of novelty. A coloured plate of *Bignonia venusta* was given in the early numbers of THE GARDEN just twenty years ago, the specimens being sent from Pendell Court, Bletchingley, where the late Sir George Macleay had gathered together a remarkable collection of interesting plants. The only place it has been my good fortune to see the Waratah (*Telopea speciosissima*) in flower was at Pendell Court. *Bignonia venusta* is a native of Brazil, from where it was introduced in 1816, so that it is quite an old plant in gardens. Some fine bunches of it were shown a few years ago at one of the meetings of the Royal Horticultural Society. Of the other species referred to by "A. P. H.," *Bignonia magnifica*, which was introduced from Columbia by Mr. William Bull, rarely flowers in this country, but I am told by Mr. Goldring that in India it is a magnificent object. *Bignonia radicans*, included under the heading of stove plants, is perfectly hardy, and freely bears its reddish tubular blossoms during the summer months.—*H. P.*

THE FLOWER GARDEN.

LILIUM GIGANTEUM.

OF the beauty of this unique Lily there is perhaps only one opinion, but the glory of its flowering is marred by the fact that it is the first and last time. In this respect this fine Lily differs from some plants that, having reached their maturity, as we may conveniently style their flowering, go on year after year and not unfrequently increase in beauty. But with the giant Lily, in place of such energies, the cultivator knows full well that the flowering is the preface of the collapse, for of the original plant there is not a vestige left. True, there may be a few offsets, four or half a dozen, or more according to the size of the plant, though the quantity perhaps is influenced rather by the number of years that have elapsed between the time of planting and of flowering. Assuredly if this item is to leave its mark on the offsets, a similar effect must be seen both in the boldness of the spike produced at the flowering and not less so in the size and the number of flowers that go to make up a complete inflorescence in such a case. Possibly of no Lily grown to-day are particulars of practical cultivation more widely welcomed than of this fine species, and such particulars should be the more welcome when obtained as the actual outcome of experience of the bulbs from the planting onwards to the flowering. Having grown this handsome plant successfully in the open ground, within half a dozen miles of Charing Cross, the experience so gained should at least encourage others to attempt to do likewise.

I have already hinted that much of the success of the flowering depends upon the lapse of time between planting and flowering. In other words, the longer the flowering is deferred, provided always that a good and sufficient leaf growth is made each year, so much the better and bolder will be the ultimate spike produced. This is the natural outcome of years of growth. In the matter of growth and years deferred, ere flowering ensues, the former will undoubtedly depend upon circumstances of soil, and aspect in particular. In both instances these things came under the control of the cultivator. Now, if we take the aspect first, I regard this as playing the more important part in the outdoor cultivation of this species, infinitely more than any conditions of soil and general cultivation, important though these be alone. In truth I take aspect for this Lily in much the same sense as I would regard it if writing concerning the Tree Peonies. In both instances the plants are virtually winter-proof, no ordinary winter frost harming them, and in both instances are the plants in their young freshly formed leaves susceptible to the nipping frosts of spring.

In each instance the deterrent effect of frosts upon the general progress of these plants is very considerable, and the only real way is to endeavour to minimise such influence as much as possible by the choice of position or of aspect. The old notion of planting *Peonia arborea* in a south-eastern position where it catches the morning sun is long since exploded. Equally unsatisfactory is the idea of planting among other shrubs as a means of protection, and worse still the old notion of wrapping the plants up with mats and other things. In greater or less degree all these asserted an influence that was not for good, and indeed the plants will be most secure if given a different position altogether. This fine Lily, if we would cultivate it successfully in the open garden, must have a position reached by the morning sun as late as possible. In such a place there will be a far greater uniform heat throughout the year, and by a much later starting into leaf growth the plants will emerge quite safely from what otherwise would have been a trying ordeal. If planted in a warm south corner, and further unduly influenced and excited into growth by this covering or that, and the greater these protections so much more detrimental are they to the plant, it is little wonder the late spring frosts overtake this giant

Lily and leave a mark not readily erased or overcome.

It is far different when a colony of bulbs is given a westerly or even a north-west by west position. In either of these the plants will more slowly respond to the influence of spring and invariably escape uninjured. This is brought about by the fact that plants so placed obtain their share of sunlight and sunheat in the later portion of the day, and this saves them. As a matter of fact a slight frost in this position is not harmful to the plants, inasmuch as the day is advanced ere the sun's rays are upon them. It is quite another matter when the Lily in a warm south aspect is injured by frost, and the force of the early rising sun is upon the plants on an April or May morning, while the frost is holding the tender leafage in its icy grip.

At such a time the result would be disastrous. Those who are interested in this Lily may like to know that in a position secure from sun till 11 a.m. it may be grown quite satisfactorily in the London district, and in a soil somewhat heavy and holding if attended to at planting time. I do not find, however, that the plant is at all fastidious as to soil, while position is everything. To obtain the best results quite young bulbs should be planted, that is, bulbs about half grown, as by this means a long season elapses before flowering is expected, thus giving the plant every opportunity of gaining great strength in its position.

Dormant bulbs may be planted as late as April in the open air, or if need be start them in pots and replant when the spring frosts are over. It is best, however, to allow the plant to get hold of the soil as much as possible, and if protection be needed give it in the early days of planting. Given a well-prepared bed of deep soil, old potting soil mingled with the staple to a good depth will do quite well, there is little to fear in the outdoor cultivation of this fine Lily. A layer of fine ashes, litter, or leaves placed over the bulbs in winter will assist in keeping severe frosts from penetrating, and a spray here and there of Spruce Fir placed into the ground is all the spring protection afforded, many of the plants flowering very finely and all in due time. It is important that water and liquid manure be frequently given during leaf growth, for not only will the advantages be seen in the flowering that ensues, but it will be equally obvious in the event of any offsets that may be left when flowering is completed.

E. JENKINS.

SUMMER FLOWER BEDDING.

HAPPILY we have yet to see the spring flower bedding of the year before that of the summer is arranged. Spring bedding endures but for a brief season, and however simple it may be we do not tire of it. Summer bedding endures for several months, and when it is of a non-varied nature, but gives from its planting to its destruction exactly the same appearance and effects day by day for a long time, it becomes intensely wearisome. What wonder if there has been against it in its stereotyped form great revulsion of feeling. Spring bedding now owes so much to bulbs that its variety and beauty are marked. Still, there are styles of spring bedding in which there is excessive flatness and monotony. It is perhaps because of the shortness of the season that, excluding bulbs, flowering plants suited for hardy bedding are limited and sameness is somewhat unavoidable. But for the sake of having the hardy spring flowers freely used much may be excused. It is when tender plants are utilised that sameness and monotony become inexcusable. The fashion of bedding now not only has led to the abolition of the mass, however florid or intense it may have been, and has substituted in the bed several diverse flowering and very diverse habited plants. These, too, follow in succession, giving to the garden a somewhat kaleidoscopic appearance, and one of much charm. The special or prominent feature of one week or two will be materially changed for others a little later, and hence, apart from the pleasure incidental to seeing a bright show of flowers, there is so much of interest in noting the changes that gradually

result. A mass of the most brilliant flowers seen day after day presently becomes distasteful, and no one having skill or taste now plants such beds. Summer bedding, at one time falling into neglect, has been literally pulled out of the pit, and greatly exalted by the higher and more artistic tastes in arrangement which to-day prevail. A. D.

CALOCHORTI AND THEIR CULTURE.

(Continued from page 203.)

GROUP VIII.—UNCLASSED SPECIES.

C. GUNNISONi (S. Watson), a Colorado species, produces stiffly erect stems $1\frac{1}{2}$ feet high, bearing large pure white occasionally lilac shaded flowers 4 inches across, zoned with yellowish green and slightly bearded at the base, with erect yellowish hairs. The petals are gracefully rounded, and are very broad—a choice, refined flower—in fact, the aristocrat of the genus. The plant is of somewhat slender growth, but healthy and free flowering, bearing from eight to ten flowers. It received the Royal Horticultural Society's award of merit in 1897.

C. Kennedyi (Porter) is a very rare and magnificently flowered species, producing a quantity of brilliant orange-red flowers $\frac{3}{4}$ inches across. They have been appropriately likened to a gorgeous Brazilian butterfly, and, indeed, I know no *Calochortus*, and but few other bulbous plants, that can compare with the rich colours and pleasing grace of *C. Kennedyi*. It is, withal, a strong growing plant of great garden value, but is, unfortunately, exceedingly rare, and is still practically not to be bought, despite efforts that have been made to collect it afresh in recent years. A splendid coloured plate of this species was issued by THE GARDEN, February 11, 1893.

C. luteus (Douglas) is a slender growing plant most resembling *C. venustus citrinus* in size and colour, but paler—a sulphur-yellow—the inside being spotted and blotched red. It is a very bright refined flower, borne on freely branching stems 1 foot high.

C. luteus v. concolor (Baker) is a strong growing plant bearing a dozen bright yellow flowers, which expand to the fullest extent. They average $3\frac{1}{2}$ inches across, and have glossy rounded petals which remind one of our native Buttercups. This is a very choice plant, one of the best and most distinct. It received the Royal Horticultural Society's award of merit in 1895, about which time it was introduced into general cultivation.

C. Lyoni, a stiffly erect plant of *C. venustus* type, is the earliest of all large-flowered *Calochorti* to open. It bears several perfectly shaped flowers with elegantly rounded petals, which vary in colour from white to rose; the bases are heavily and sharply blotched black. This plant received the Royal Horticultural Society's award of merit in 1896, about which time it was introduced into general cultivation.

Several species and forms, many of them very beautiful, have been purposely omitted from this already lengthy monograph; many of them are natives of desert land, and are practically unsuitable for cultivation in this country; others also omitted are more hardy perhaps, but have poor constitutions. One phase of their cultivation may be mentioned here. It may be desirable to grow these plants in pots for the decoration of apartments, conservatories, &c.; this is quite an easy matter. Six bulbs may be planted in a 5-inch pot in a loose, friable compost, and treated exactly as one would treat *Freessias*, *Ixias*, and *Lachenalias*. The chief items of importance

are to shade the plants during strong sunshine, and to water very carefully; an overdose of water on a dull day will kill every root they have. They may be forced into flower a month or six weeks in advance of their proper season. The most suitable for forcing are those of the *venustus* group. The interest centred in these plants is of no ordinary kind; their exquisitely soft and pure colours, enhanced by vivid and wonderful markings, place them in the front rank of all that is beautiful in nature. THE GARDEN, when advocating the cultivation of these plants years ago, said:—"Anything more perfectly fascinating and artistic than a vase full of *Calochorti* it would be impossible to grow in a British garden." This is doubly true to-day when so many fine new types are available.

GEO. B. MALLETT.

JAPANESE PLUMS.

FRUITS of these Plums are now to be seen in the fruiterers' shops. They are from South Africa, where a praiseworthy effort is being made to grow fruit for export to England and other European countries at a time when it should find ready acceptance. It is to be feared that the ridiculously high prices asked by dealers in this country for these Plums—from 6s. to 10s. per dozen—will throttle this effort of the enterprising cultivator in South Africa, which really deserves every encouragement.

Japanese Plums have been brought into notice by our American cousins, who grow them largely. Their history is told by Professor L. H. Bailey, of Ithaca, New York, in a *Bulletin* published in 1894 by the University of Ithaca, from which the following is taken:—

"In 1870 Mr. Hough, of Vacaville, California, secured several Plum trees from Japan

through Mr. Bridges, a United States Consul in that country, at a cost of 10dols. each. These trees soon passed into the hands of the late John Kelsey, of Berkeley, California, who obtained the first ripe fruit in 1876 or 1877. Mr. Kelsey became convinced of the value of this Plum for general cultivation, and its propagation on an extensive scale was begun in 1883 by W. P. Hammon and Co., of Oakland, who afterwards named it in memory of Mr. Kelsey, and who made large sales in the planting season of 1884. Subsequently, other parties, particularly Luther Burbank, of Santa Rosa, California, made importations of Plum trees from Japan, and have disseminated the varieties widely. For the past four or five years these Plums have awakened more interest throughout the country than any other new or recent type of fruits; and it has been found, contrary to the early opinion, that many of them are adapted to the Northern States. Whilst they are often inferior in quality to the best garden Plums (*P. domestica*), they possess various desirable characteristics which the others do not, particularly great vigour and productiveness of tree, comparative freedom from disease, great beauty and long-keeping qualities, and the best of them compare well in quality with the common Plums."

I had often heard of the merits of these new Plums from American horticulturists, when visiting Kew, including Mr. Bailey, and, although I was assured by English fruit growers that they were of no value in this country, I included a chapter on them in the new edition of "Thompson's Gardeners' Assistant," vol. iv., page 162, with figures of four varieties and descriptions of thirteen. When they were first tried in the United States they

were condemned on account of the tenderness of the tree and the poor quality of the fruit. It is clear that the evidence was insufficient, and, luckily, it was not considered conclusive. Probably we shall find the objections against them in this country equally unfounded.

The fruits now offered for sale in this country have much to recommend them. They are large, handsome, distinct in form, and, although lacking the quality of a first-rate English Plum in September, it must be remembered that the fruit has undergone a long sea voyage and the numerous disadvantages attendant on a passage through the tropics for a fruit of this character. The reports from the United States are highly favourable. "The best of them are nearly equal to the best of the European kinds"; "they are less seriously attacked by insects and fungi than the common Plums are"; "they have long-keeping qualities."

The origin of Japanese Plums appears to be from a Chinese species of *Prunus* named *triflora*, by Roxburgh, from a specimen found in Calcutta Gardens over seventy years ago. It is characterised by having three flower-buds at each node, whereas *P. domestica* has only one, rarely two. The fruit of the Japanese Plums is globular, or more often conical, and with a deep depression at the base and a very prominent suture, the flesh clinging to or free from the smooth or lightly pitted scarcely winged pit.

The varieties recommended by Bailey are Abundance, Kelsey, Burbank, Chabot, Satsûma, Red June, Lutts, and Engre. They are catalogued by the leading fruit tree dealers in the United States.

W. WATSON.

[We tried these Plums on Mr. Watson's recommendation, and found the fruit excellent; the flesh is richly flavoured, juicy, and firm. A delicious Plum indeed.—Eds.]

CONTINENTAL NOTES.

PERENNIAL PLANTS TO SOW IN MARCH.

ALTHOUGH perennial plants are increased principally by division, or separation of the clumps, sowing has certain advantages. The resulting plants flower more freely, are more vigorous, and at times they differ from the type.

The seed of a certain number of perennial plants should be sown in order to enable them to germinate properly the following spring, such as Aconites, Gentians, Hellebores, perennial Phlox, perennial Primroses, and sweet-scented Violets, all plants of which the seed germinates slowly. Sowings should be made from October to the end of January in a cold frame in a sheltered position, with an east exposure for preference. These sowings can be treated in the same manner as those of biennial plants, and, in most cases, thus treated the plants will flower the following year.

Most perennial plants are sown from March to the end of April, either where they are to flower, like the *Gypsophilas*, Garden Stock, Lupins, &c., or in a cold frame in a good position, either planted out or in pots: *Achilleas*, *Alyssum Corbeille d'Or*, *Arnebia*, *Asphodelus*, *Aubrietias*, *Bocconia*, Italian Bugloss,



THE KELSEY PLUM (NATURAL SIZE). (In colour the fruit is not unlike an *Etruge Nectarine*.)

perennial Campanulas, Cerastiums, Doronicums, perennial Gaillardias, Chrysanthemum Leucanthemum, Carnations, Potentillas, Sedums, Senecio pulcher, Silenes, Statice, Thlaspi, and perennial Veronicas. Some perennial plants should be sown on a hot-bed and wintered in a frame, such as Acanthus and Echinonema. Others should be sown in peat. When sown in a cold frame in March, Asters, Boltonias, Chrysanthemums, Lychnis, Larkspurs, and Pyrethrums are certain to succeed.

At the present time, when even in the smallest gardens the beds require a large number of plants, it is often impossible to winter and propagate by means of cuttings a sufficient quantity of certain perennial species. Sowing enables one to obtain plants which will flower the same year; such is the case with Gauras, Carnations, and Stevias, generally propagated by means of cuttings, or indoor plants such as Coleus, Heliotropes, and Impatiens, of which the housing in winter is often difficult and cumbersome. Propagation of indoor plants by means of sowing is usually practised in the case of Achimenes, Begonias, Coleus, Gloxinias, and Tydeas.—DE STAPPAERT, in *La Revue de l'Horticulture Belge*.

NOTES ON HARDY PLANTS

SPRING-FLOWERING CROCUSES.

NO other early spring-flowering plants display such a variety of beautiful and highly interesting forms as these Crocuses, not even the Florist or Dutch Crocuses, which, although showy, will not bear comparison to such lovely forms as, for instance, *C. Alexandræ*, *C. Sieberi* var. *versicolor*, or even the typical *C. aureus*, *C. Balansæ*, or *C. aerius*. Almost every wild form of Crocus is distinct and pretty, but not very popular, and in few gardens are they generally grown and properly tended. Many of these vernal Crocuses bloom very early, and in order to prevent the flowers being spoiled by frost and snow plant the bulbs in slightly sheltered positions in a not too heavy and binding soil, adding sand wherever possible. The best time for planting is as soon as they are ripe, but they may also be lifted during the flowering time if they can at once be replanted. However, the proper time will always be the autumn. The following Crocuses are flowering here at the present time:—

C. chrysanthus.—A beautiful species, with several equally pretty forms, varying in colour from bright yellow to deep orange or golden yellow, especially the form *C. chrysanthus* var. *superbus*, which has unusually long segments and orange anthers and long protruding scarlet stigmata. This plant produced its first flowers early in January, and is still in bloom. The later-flowering forms, *fusco-tinctus* and *fusco-lineatus*, and also *albidus*, are, however, more fugitive. *C. biflorus*, with its many variable forms, is another very pretty plant; the flowers differ generally in the exterior markings of the nearly pure white segments. In some of these the markings are very rich, especially in the form *nubigenus*, which has a tinge of crimson-blue and pink on a white ground with orange anthers and bright orange-scarlet stigmata. In the typical *C. biflorus* the leaves are linear and light green, and from 6 inches to 9 inches long. In *C. biflorus perpusillus*, a dwarf form with small but numerous flowers, the leaves are almost filiferous.

C. arvens.—This is a delicate species, and increases slowly, but is very distinct and beautiful, with small globular flowers of pale bluish purple, feathered deep purple and small orange-scarlet stigmata.

C. aureus.—The true wild species is one of the most delightful of all Crocuses. It has uniform deep golden yellow or orange flowers with the same coloured anthers and stigmata. For this species another less pretty form identical with what is commonly called Yellow Dutch Crocus is often sold. The usually striped forms known

as *C. sulphureus*, *C. sulphureus striatus*, and others are less distinct and pretty than *C. aureus* but more common.

C. Ancheri.—A small growing but free-flowering species with orange-yellow flowers and very distinct deep shiny green rather broad leaves.

C. Korolkowii is a fairly large-flowering species, golden yellow flowers with exterior brown stripes, orange anthers, and orange stigmata.

C. Balansæ.—There are several forms of this, all of dwarf growth, and with short foliage and small globular flowers. In the one the colour is golden yellow, the exterior of the three outer segments being bronze or brown, while in the second the brown tinge is absent, and the third is probably a sport with pale yellow flowers, the tips being almost white; the anthers in all are orange, and the stigmata orange-scarlet.

C. suterianus and *C. ancyrensis* are two very pretty species with golden yellow flowers, allied to both *C. chrysanthus* and *C. Ancheri*.

C. Imperati, a common, at the same time showy, Crocus, has long leaves, sometimes over a foot in length, and large flowers with the inner segments bright rosy purple, the exterior of the outer segments being feathered and suffused purple; the anthers are pale orange with large orange-scarlet stigmata. There is also a pure white form.

C. suarcorens is allied to *C. Imperati*, but shorter. It has erect leaves, paler coloured flowers, with the exterior striped purple and tinged buff. It flowers usually ten days earlier than the former.

C. versicolor is a peculiar, rather pretty species, with light green leaves, long and large flowers of a bright purple colour, the exterior being feathered and tinged paler purple, and orange-scarlet stigmata.

C. Malyi is a pretty free-flowering vigorous species with white flowers, orange anthers, and stigmata of the same colour.

C. minimus and *C. corsicus*.—The former is a dwarf species with small globular flowers of violet colouring, the exterior striped and feathered purple. *C. corsicus*, on the other hand, flowers later, and has the same coloured flowers but light orange anthers and bright scarlet stigmata. In Corsica the first is simply called "forme depres" and the latter "forme de montagne."

C. Sieberi.—A free-flowering plant with bright lilac flowers, with orange anthers and showy orange-scarlet stigmata. The prettiest of all is no doubt *C. Sieberi* var. *versicolor*, flowering late, not before the middle of March. The interior segments are white, the base yellow, with beautiful markings of the outer segments varying from crimson to red-purple, a very rare plant. *C. Alexandræ* has similar coloured flowers, but not quite so decided.

C. hermonensis, white flowered, the exterior pretty, marked with purple and grey.

C. alataricus.—A very distinct and also very rare plant, having long linear almost filiferous leaves and long though otherwise small flowers, pure white, the exterior of the outer segments being distinctly feathered and tinged grey, purple-orange anthers, and small orange-scarlet stigmata.

Of Crocus vernus, the cultivated varieties being so extensively grown in Holland for export as bedding plants, there are two very pretty forms, *C. Leedsi* and *C. vernus* var. *leucorhynchus*, especially the latter, which has rich purple flowers, the tips being pale lilac or white. It is a very showy form.

Middlesex.

G. REUTHE.

CULTURE OF GLADIOLI.

I THINK perhaps that most of those who write on this beautiful autumn flower have before their minds the grand class of what are called the Gandavensis hybrids, which originated with the late M. Souchet of Fontainebleau, and with which has been associated of late years another class of hybrids into which has been brought the influence of *Gladiolus purpureo-auratus*, a species which was introduced many years ago by Mr. William Bull of Chelsea; it has been crossed with the Gandavensis

varieties. There is also another section, the Childsii group, which originated, I believe, in America, and of one of which, Princess, we hear a good deal; but I have not grown them, and my observations will therefore be only in reference to the Gandavensis section, and as I have for the last forty-five years grown them, and seen from year to year the wonderful improvement that has taken place, and have been in constant communication during that period with M. Souchet and his successors MM. Souillard and Brunelet, I ought to be able to speak with some authority on the subject.

The history of the flower during that period has certainly been a remarkable one, and unlike that of any other flower, for its production has been confined to a very few growers. In France one may say positively no other florist has ventured to enter into competition with the Fontainebleau firm. Some years ago there were a few who ventured to do so, but they did not produce any flowers of any great merit, and I have now before me the last published catalogue, that of 1901, issued by Messrs. Vilmorin Andrieux and Co., who distributed the Fontainebleau seedlings, and I find no other name but theirs in the list. As far as our English growers are concerned the production of new varieties has been almost restricted to one or two growers. For a great many years Messrs. Kelway and Son of Langport, Somerset, held the field, and for some time used to contribute to the autumn show held at the Crystal Palace, where I regularly attended, and saw from year to year the wonderful improvement that had taken place in the production of new varieties. One great object which the raisers had in view was to produce flowers whose spike should face the visitor and not be back to back, as it was felt that this was a great defect. Various plans were suggested in order to do away with this. I remember seeing the stiff leaves of the Yucca used for the purpose of supporting the spike, and various other contrivances were suggested for the same purpose. I have seen an exhibitor carefully tying every bloom to a support, with which the flowers were invariably exhibited. After some years a very formidable competitor to Messrs. Kelway arose in the person of Mr. John Burrell, Howe House Nurseries, Cambridge. He did not save his seed at random, but carefully hybridised each flower. His care and patience were rewarded, and I question very much if his flowers do not take the very highest position. It unfortunately happens that the flowers of these two raisers never come into competition on one with the other—Messrs. Kelway invariably show at the Drill Hall and Mr. Burrell at the Aquarium.

The cultivation of the *Gladiolus* is a puzzling matter. The bulbs or corms which you plant this year you will never see again; each corm has one or two eyes, from which spring the flowering stems, and when these die down it will be found that a fresh corm has been formed by each; it will not be as large as the preceding one, and year after year it diminishes in size and vigour, and at the end of four or five years vanishes altogether. Thus many of the statements made about it are misleading. It is perfectly true that the bulbs will grow in any ordinary garden soil; but it is also true that there are circumstances under which they grow more favourably than in others. These circumstances are not only connected with the soil, but with the climate. Thus in Cambridgeshire, where the rainfall is smaller than in any other part of England, a heavy loam seems to be most suitable for them, but if they were planted in the same sort of soil in the district where the rainfall is large it would no doubt lead to

the destruction of the bulbs. In the autumn it is well to prepare the beds for planting in the following spring. They should be dug over for a depth of 12 inches or 18 inches; a layer of well-rotted manure should be placed at the bottom of the trench which has been dug, and should be incorporated with the soil, while the upper portion of the bed should be kept free from any manure, as the *Gladiolus* resents contact with any fresh manure. Indeed, some growers are of opinion that the losses to which many are subject is in a great measure owing to the quantity of humus in the soil, even though it may have been well incorporated with it. Now, touching these losses there is much difference of opinion, and I have been taken to task by some growers for mentioning them, but I think it is unfair to those who wish to cultivate the flowers not to state the difficulties they have to contend with. There is a certain amount of mystery about the malady the flower is subjected to which I have never been able to explain, nor have I seen it explained, but my hopes have been often terribly disappointed; not only have I found when I came to lift my bulbs that many of them had perished in a sort of dry rot, but that others which I had lifted and stored away perished during the winter. I had noticed there were a few spots on the bulbs which had increased until the whole bulbs had perished in the same sort of dry rot that I had observed in other cases. Some said it was from degeneration (what that meant I do not know), others from exhaustion of the bulbs, and others from errors in the soil in which they were planted; but none of these reasons seemed to me to be the case. How then it may be said can the different varieties be continued? That they are continued is plain, for all the varieties sent out by M. Souchet and his successors are catalogued in Messrs. Vilmorin Andrieux and Co.'s list, and can be had from them. Around the base of the bulbs a number of small bulbils are every year formed; these are removed in the autumn, placed in small bags, and then planted in the spring, sown in drills like Onion seed, and then lifted up again in the autumn. Some varieties produce a large number of these bulbils, and some produce them very sparsely, and this is the reason why some bulbs which have been put into commerce in the same year differ so largely in price. Therefore, as I have said, though growers have to mourn over the loss of their bulbs, they may with a little care and patience keep up their stock. There is another point also to be considered with regard to these losses, namely, that the price of the bulbs is so greatly diminished that for a few pence they may be easily replaced. I have often compared the *Gladiolus* with the *Hyacinth*. We every year import a large quantity of bulbs of the latter from Holland. We grow them in pots, and in many cases after flowering we never expect to see anything of them again; they may perhaps be relegated to the open border, but we take no count of them. At the same time, taking up and storing the bulbs is a matter of great importance; if lifted too soon they will not have received the full supply of strength that they ought to gain after flowering, but if left too long strong fleshy roots will be produced, which must be done away with before the bulbs are replanted, and then again the vigour of the bulbs will be diminished. Where the collection is large the smaller bulbs may be



CEANOTHUS AZUREUS IN THE ROYAL GARDENS, KEW.

taken up first, but where it is of moderate dimensions they may all be lifted at the same time; the period when this is to be done will depend materially on the locality and the character of the season. I generally find the end of October or the beginning of November the most suitable time. Each year the raisers send out a number of new varieties, and these of course are more expensive; a beginner need not trouble himself about these, but the more experienced grower will like to know what they are. The following were sent out last autumn by Messrs. Vilmorin Andrieux and Co., and are without exception the produce of the Fontainebleau firm.

Commandant Barutier.—Full spike, large flowers, violet, striped, and shaded with white at the base of the interior divisions, excellent early flowering variety.

Gladiateur.—A long compact spike of large flowers, very full, colour a brilliant red striped with darker shades of red, with white spots.

Goliath.—Large compact spike, very large flowers, a clear vermilion-red with white spots, the colour very distinct.

Honoré.—A large compact spike of well-opened, large, flesh coloured flowers, relieved by stripes of bright carmine red and dark orange spots, a flower beyond comparison.

Jean Bart.—Fine long spike, with large flowers of a bright crimson shade, with spots of ivory white.

La Française.—Splendid spike of very large well-opening flowers of a fine clear lilac colour and pure white spots.

Mme. Alfred Pierret.—Long and handsome compact spike, with numerous large flowers, pure red lilac slightly tinted with red, a flower of the first order.

Mme. Chollet de Caradon.—A compact long spike, flowers large and opening well, of a pale citron-yellow colour, pale amaranth spots.

Mentor.—Fine spike of large well-opened flowers, colour a delicate shade of red, with a deep red spot bordered with white.

Minotaure.—A long compact spike of well-

opened flowers of a brilliant dark red colour, a magnificent flower.

Turenne.—An admirable spike of well-opened, large flowers, clear carmine-red with pure white spots, a very remarkable flower.

H. H. D'OMBRAIN.

CEANOTHUS AZUREUS.

IN the desire to have its varieties *C. azureus* the species is frequently overlooked, but it is a shrub of much beauty, one of my favourites, as upon a south wall it has made wonderful growth, so much so that the wiry leafy branches have reached beyond the bedroom windows. In the illustration it is shown as a bush, and in both ways is always a pleasure to see, the dense shining green colouring and purple flowers making a rich picture. It is a Mexican shrub, and in some places gets hurt during severe weather, but in the garden referred to at Chiswick it receives no shelter. When, however, a hard winter seems likely rough covering with mats is a necessary precaution. One of the best of all *Ceanothuses* is *Gloire de Versailles*, which is the result of crossing *C. azureus* with *C. pallidus*. C.

TREES AND SHRUBS.

PRUNING OF HARDY FLOWERING SHRUBS.

THE systematic pruning of hardy flowering shrubs receives scant attention in many gardens, probably through the requirements of the various subjects not being well understood. Shrubberies of a few years ago required quite different treatment to the up-to-date shrubbery or collection of shrubs of to-day. Then shrubberies were composed of a few things only, these being repeated with such persistence as to make them devoid of interest. The plants used were those which caused least trouble, and an occasional thinning out or cutting back was all the pruning given or thought neces-

sary. Now it is different. In well-appointed gardens good collections of hardy shrubs are not unusual.

In some places, however, there is a tendency to let the shrubs severely alone, treating them in a similar way to the old displaced shrubberies. This will never do; flowering shrubs, or in fact shrubs of any kind, must be "cultivated" if the best results are to be obtained; the ground must be worked and kept clean, strong ones must not be allowed to smother weak ones, and above all an annual pruning should be given. Here, again, another important item occurs—the time for pruning, for as it will not do to prune all shrubs in the same way, neither will it do to prune all at the same time of the year; some require pruning in late winter or early spring, others which flower on last year's wood being left until after the flowers are over.

Broadly speaking, four kinds of pruning should be practised—*i.e.*, shortening branches, thinning, dis-budding and the removal of seed heads, and root pruning. In all cases the object is the same, to encourage shoots which will produce the best flowers with a minimum loss of energy to the plants. In some instances where a few branches only are made the result is obtained by the first method; in other cases, where shoots are very numerous, it is necessary to considerably reduce the number to allow light and air free access to thoroughly ripen the wood. In other cases, again, such as the *Rhododendron*, the removal of superfluous buds and the old flower heads is essential, whilst in cases where rank shoots are made at the expense of flowers root pruning must be practised.

When pruning, a few important points must be considered. No jagged cuts must be left, all wounds being cut perfectly clean. No snags should remain, shoots should be cut out to the base and not left a few inches long. After pruning all wounds of any importance should be at once dressed with coal tar to prevent disease germs settling on them.

Among the many genera of shrubs in cultivation the following have been selected for separate notice as representative of the others.

CEANOTHUS.

Although a few species only are grown, pruning is necessary at very different times of the year. In the case of *C. azureus*, *C. americanus*, and the numerous fine flowering garden varieties, prune in spring. This should consist in thinning out the shoots and well shortening those left; in many cases it is desirable to spur them back to two or three eyes. As is well known, all the above-mentioned flower in summer and autumn on young wood. As a contrast, *C. divaricatus*, *C. papillosus*, *C. rigidus*, and *C. veitchianus* flower in spring on the previous year's wood, and require pruning after the flowers are over. These do not require spurring back, thinning and shortening being, as a rule, necessary.

CYTISUS AND GENISTA.

These two genera being so much alike can be easily treated together. As in the previous genus, there are two distinct sets, one that flowers from old wood and one from young. Of the former set *C. albus*, *C. biflorus*, *C. præcox*, *C. purgans*, and *C. scoparius* (common Broom), and varieties may be taken as examples; and of the latter good representatives are *C. nigricans* and *G. tinctoria* and varieties. After the flowers are over the first-

named should be thinned and pruned into shape, the latter set being cut fairly hard back in spring just before growth commences. These shrubs should never be cut back into wood that is more than two years old or they will not break well; it is better to confine pruning to one year old shoots. Two notable exceptions to pruning are *G. æthensis* and *G. virgata*; except when young these require little or none, and take a much longer time to reach maturity. In the case of most of the species renew the plants every few years.

SYRINGA (LILAC).

Attention is seldom given to the pruning of Lilacs in gardens, yet it well repays the trouble. Good Lilacs should be free from suckers, and have

is the correct treatment. Particularly is this the case in the dwarf *P. Lemoinei* set. Here, as soon as the flowers are over, all old flowering wood must be cut back to strong young shoots, leaving only sufficient to form a shapely plant. During summer strong shoots 3 feet long will be made which will ripen well in autumn and flower profusely in the following June. By merely shortening the shoots without thinning or by leaving them alone plants four or five years old become perfect thickets and lose all their gracefulness and beauty. The taller growers may also be thinned after flowering.

FORSYTHIA.

Although good displays are obtained without pruning, the results are much finer when pruning is done. Prune as soon as the flowers are over, and last year's wood may be spurred back to within a few eyes of the old wood. In this way *F. suspensa* makes strong shoots 4 feet to 5 feet long, which flower from base to summit. *F. viridissima* and *F. intermedia* should be treated in the same manner.

PRUNUS.

The method of pruning practised for fruiting Plums is suitable for most of the purely ornamental flowering species. One or two are, however, exceptions. *P. japonica* fl. pl. is improved by an occasional hard cutting back. This gets rid of old worn-out flowering wood, and encourages strong young shoots, which flower with great freedom. After flowering, spur the shoots back, a severe pruning being given every five years. *Prunus triloba*, when grown on a wall, should be spurred back after flowering, and long, strong shoots encouraged.

SPIRÆA.

In this genus the chief point to attend to is thinning. Most of the species grow naturally into dense bushes, many of the inner shoots never being able to develop for want of space and light. These shoots should be removed to the ground line, leaving only sufficient to form a well-balanced shrub. In the *japonica* group more pruning is required. Flowers are borne in large heads on strong, soft shoots of the current season's growth, consequently, in addition to well thinning the plants out, the flowering shoots of last year should be shortened to about half their length, as by this means stronger shoots are made, which bear correspondingly larger heads of flowers than if no shortening is done. In this section it is advisable to remove the flower heads as soon as the flowers are over. In the case of *S. arguta* peg some of the shoots to the ground when thinning out, as by this means a more effective display is made.

The double-flowered *S. prunifolia* may after flowering be pruned to strong back shoots.

RUBUS.

Whether grown for their flowers, fruit, or for the winter effect produced by the coloured stems of some species, all Rubi are benefited by an annual removal of the old wood, the work being done as soon as flowers or fruit are over. The effect of a mass of *R. deliciosus*, for instance, is quite spoiled if the old wood is left in year after year until it becomes a choked up mass of dead wood, with here and there a patch of living branches. By pruning the mass is kept light and graceful, and the plants live for a much longer period. The same thing applies to other species.

PHILADELPHUS.

A few years ago the belief was very prevalent that if these plants were pruned they would not flower. This is incorrect, the method of pruning being responsible for the failure. Shortening back of branches had been practised, whereas thinning



BOLDLY PLANTED FLOWER BORDERS WITHOUT FORMAL EDGING.
(Photographed by Miss Willmott.)

PYRUS

require similar treatment to that given to well cultivated Apple trees.

RHODODENDRONS

and other members of the Erica family are greatly improved by the removal of all flower heads as soon as the flowers are over, Rhododendrons being also helped by thinning of the buds when a heavy set is made.

HYDRANGEA PANICULATA

should be spurred to within an eye or two of the old wood in March, and the young shoots which follow should be thinned to ten or twelve to each plant if large heads of flowers are wanted. Deutzias, Viburnums, Cornus, Loniceras, Berberis, &c., are all improved by thinning, and the same may be said of nearly all shrubs.

By spurring back Wistarias and Pyrus japonica free flowering bushes are obtained, although in the latter case fine flowered bushes can only be had by thinning also.

MAGNOLIAS

rank among the few shrubs and trees which require little or no pruning. They are very impatient of interference, both at the roots and branches, consequently as little as possible must be done. When pruning is required summer is the best time to do it.

Shrubs such as the coloured-stemmed Willows and Cornus are improved by hard pruning, the colour being much finer on one year old shoots than it is on older ones. It is, however, inadvisable to begin cutting back old Cornus; it is far better to plant young ones and prune from the commencement. Some coloured foliage shrubs, such as the Golden Elder, are improved by an annual cutting back, the colour of the leaves being finer on young, strong shoots than on old wood.

ROOT PRUNING.

As in fruit trees, this should be practised when too much wood is made at the expense of flowers. Very often the object can be accomplished by lifting and replanting. If this cannot be done a trench should be made round the plant and some of the strongest roots removed. W. DALLIMORE.

FLOWER BORDER WITH INFORMAL EDGES.

THE illustration shows the value of a bold planting of good hardy plants without a stiff edging to the walk. Each plant that is next the edge shows its own way of growth without hindrance, and the eye is not unpleasantly caught by a stiff edging line cutting between them. The stiffly edged walk can be rightly treated also, as in old gardens, or indeed new, where there are bold borders of Box edging. But within this the plants are differently chosen and differently treated. The border shown is a good example of the way to treat a flower-edged path at a little distance from the house, where it leads towards woodland or wild ground.

RIVIERA NOTES.

CANNES FLOWER SHOW.

THE above show, held on the 12th ult., was very interesting. The Carnations were splendid in quantity and quality. There were one or two remarkable novelties, especially one flower which had a clear lemon-white trefoil in the middle of each of its guard petals, which were of a deep red ground, the flower itself being large and bold in character. On asking the raiser when he would have plants or cuttings to sell, the answer received was "Perhaps in ten years I shall have enough stock to send it out!" A

truly characteristic answer in these parts where raisers are so curiously jealous of parting with their treasures to strangers. The Nice growers were in great force, and showed the finest flowers as a whole. Claude Revaillet, Octave Gimello, and Marius Ghilonda had fine collections of their own raising, much refined in quality, clear in colouring, and generally non-bursters, so that their exhibits were surrounded by a crowd of would-be buyers. The great Antibes grower (Carriat) had less striking exhibits, as his flowers grown under glass were rather drawn up by the heat in consequence. There was no collection of seedlings, all true to one type, such as we saw last year, but the quality of the flowers generally speaking was an advance on previous years and the envy and admiration of the amateurs who thronged the show. Characteristically, the two finest flowers shown were without any name or address, so that the stranger should have no clue to their raising. One was a group of Iris, presumably a hybrid between *I. susiana* and *I. Lorteti*. It was so magnificent in size and colouring I could not keep my eyes from it, yet it had neither a name nor was there any trace of its raiser or exhibitor. The other was a white hybrid Anthurium, of perfect purity and grandest size, which, however, had a name, being named after Mme. Demole, but had no other clue to its raising.

PRIMULA VERTICILLATA

is now much used as a spring bedder, and is very bright and sunny in effect, especially when used as an edging to the masses of Cinerarias so common here. The other day at Nice I saw many fine blooms of the

NEW ROSE AMERICAN BEAUTY,

which is apparently a better forcer than Ulrich Brunner, and rather better in shape. Its scent is delicious, and its colour does not fade as quickly as that of Ulrich Brunner, so it seems as if it would be a real gain. Mrs. John Laing and Gabriel Luizet were, as hitherto, the finest pink Roses shown. Others deserve no

special remark. The Anemones in big bunches of distinct varieties and colours were brilliant indeed, but the Daffodils shown were very inferior. As yet the handsome trumpet forms are practically unknown here, though they will do very well when planted deeply and in moist ground. This spring has proved so genial and the ground is so full of moisture that everything is forward and luxuriant. The various Irises of the Germanica section are in good flower, and the pretty *Tulipa clusiana* dots the sunny terraces already. E. H. WOODALL.

DWARF CAMPANULAS.

(Continued from page 208.)

C. isophylla I have already mentioned; its white form is well known. The cottage windows in Devonshire villages often have plants of it, and I have seen some wonderful specimens of it that I am sure would compare favourably with the 300 flowered plant mentioned by M. Correvo.

I have to pass a number of varieties quite unknown to me till I come to

C. muralis or *portenschlagiana*.—This is a great grower with me and flowers for five months (longer than any other Campanula I know). It is a pretty plant that can be strongly recommended (see illustration). Robinson says it blooms in August and September only, and increases slowly; this is not my experience. *Muralis bavarica*, I note, must be called in future, major.

C. pelviiformis I had, but I have not replaced it, as it seemed only a flat form of *carpatia*.

C. pulla.—I am not at all sure that if I was asked which dwarf Campanula I liked the best I should not say *C. pulla*. The plants I had flowered profusely; it is the darkest of all the Campanulas, and it threatens to become almost a weed (and a truly beautiful one) so rampant was its growth. It grows on my shady rockery in pure loam with a little sand, and several plants are 12 inches square at least. It practically loses its foliage and goes



CAMPANULA MURALIS, KNOWN ALSO AS C. PORTENSCHLAGIANA, BUT MURALIS IS THE BETTER NAME.



CAMPANULA G. F. WILSON. SAXIFRAGA MACNABIANA ON THE RIGHT.

to rest sensibly in the winter, so the fogs hurt it not. Its colour prevents a photograph doing it justice.

C. pusilla.—This pale blue Campanula I have already referred to under *caespitosa*; it is well known and deserves to be. It grows like a weed and is easily increased, self sown seedlings coming up everywhere. Its white form is also good, but I prefer the type.

C. Raineri.—This I saw true for the first time at Mr. Selfe Leonard's this summer. The plant I have always grown as *C. Raineri* is a poor thing compared to the true plant, which is a gem of the first water.

C. rotundifolia.—This I first raised from seed gathered on Tooting Bec Common. As an instance of what rich soil will sometimes (not always) do for plants, a last year's seedling grew into an enormous plant with hundreds of blossoms. I have sown the seed all over the Common, and it has germinated well: the plants, however, never throw up more than one flowering stalk, while those in my garden send them up by the dozen.

C. thomasiiniana.—This is a handsome dwarf species that M. Correvon mentions under *waldsteiniana*. It is with me, however, much more to be desired. Its flowers are long and tubular, drooping, and about 1 inch in length. It is by no means a common variety, and I obtained it from Mr. Pritchard of Christchurch. It is one of the gems and likes shade.

C. turbinata.—There are a lot of forms of *carpatia* that are often sold for *turbinata*, but the true variety is by far the best. M. Correvon does not mention this as a separate species or place it among the saxatile Campanulas at all. It is, however, to my mind a long way from *carpatia*, and much to be preferred. I had two varieties from Messrs. Ware, *pallida* and *alba*, both good in their way. I have always understood it was one of the parents of *Campanula* var. *G. F. Wilson*, but I was wrong.

C. waldsteiniana.—This is a free flowering and free growing miniature Bell-flower that prefers the sun to shade, unlike *thomasiiniana*. Its pale blue flowers are very pretty, and its habit is compact and good.

C. Wilsoni.—There are two forms of this in the trade, one a miniature, the other a border

plant. They are both good. *C. pulla* is easily recognisable in both of them, as one of the parents, but I have not seen the second form (?third), mentioned by M. Correvon, with yellow leaves.

Besides the above-mentioned species there are many hybrids that are worth growing. M. Correvon falls foul of the introducers of most of them, or is it of the nurserymen who exploits them after they are introduced? I have no experience of the German nurserymen, but the best houses in the trade here in England are, speaking generally, to be relied on, and unless a plant is worth growing they do not recommend it.

Amongst some of these hybrids that I have grown, or perhaps I should call them garden forms, are *C. Wilsoni*, *C. Mayi*, *C. Hostei*, *Riverslea*, *Venusta*, *Chad Valley Gem*, *Bowoodiana*, *Profusion*, and *R. Parker*. These, I think I may say, are distinct in their way, and certainly my garden would have been the poorer without them.

Looked at from a botanical point of view, perhaps M. Correvon is right; but I am not a botanist, only a flower lover.

Once more thanking both the Editors, and the contributor of (to me) one of the most interesting series of articles that has appeared in THE GARDEN for a very long time, I conclude with the hope that we may hear more on this subject from some of those who I know are interested in the dwarf Campanulas.

HERBERT E. MOLYNEUX.

Bulham, S.W.

[The Bell-flower, formerly known as *C. hederacea*, was not included in M. Correvon's monograph, because botanists have detached it from the genus *Campanula* and have placed it in the separate genus *Wahlenbergia*.—Eds.]

M. Correvon also gives us the following notes:—

1. *C. Allionii*.—This gives good seed abundantly; the seed germinates well, but it is difficult to rear the seedlings, as they are liable to rot away or to be killed by a kind of rust.

2. *C. alpina*.—It is quite likely that in England it grows taller than in its native places or in the garden at Geneva.

3. *C. cenisia* does well, even very well, in

some parts of England, as for instance at Warley, in Essex, where it is grown in poor gritty soil.

4. *C. hederacea* is detached from *Campanula* and included in *Wahlenbergia*, as in "Index Kewensis."

5. *C. thomasiiniana* is a synonym of *waldsteiniana*. (See "Index Kewensis.")

THE FRUIT GARDEN.

THE STRAWBERRY.

OVER many hardy fruits the Strawberry can claim an advantage. While others most commonly cultivated in British gardens yield little or no return until some considerable time after planting, for instance the Apple, Pear, Plum, Cherry, the Strawberry produces its best the next season. And this characteristic should commend the culture of the Strawberry to all who have a garden. Other advantages hardly of less value can also be urged in its favour, viz., an enormous number of plants can be grown upon a comparatively small piece of ground; these occasion no elaborate cultural practices such as pruning, training, &c., are easily propagated, and the returns are quick. Considering these facts, and also how delicious and refreshing a fruit the Strawberry is, it is not surprising that it should be grown very largely for market, both out of doors and under glass. The favourite county for Strawberry cultivation for market is Kent, acres and acres of ground being there devoted to them.

The extremely numerous varieties of the Strawberry that are now in cultivation, and the number is annually increasing by the addition of new sorts, are the offspring of several species of *Fragaria*, two of the most important of which are the Chilean and the Virginian Strawberries. The Virginian species was introduced to this country in 1629, while that from Chili did not arrive until 1727. This had, however, been cultivated in the Royal Gardens at Paris and also in Holland for some time previous to its being brought to England from Holland by Mr. Miller. Germany is the home of the Alpine Strawberry, whence it was brought to England in 1768. Although many new varieties have been raised during the past century, it is probably doubtful if there are now more varieties in cultivation than there were in 1820, for then Mr. Knight, president of the Horticultural Society, had no less than 400 sorts in his garden. And the reason is not far to seek—it is the same with other fruits. As new and improved varieties are raised and placed before the public, some of the older ones disappear. Although since then a great improvement so far as size, colour and appearance of fruit, and vigour of growth of the plants has been effected, a corresponding amelioration in the quality of the flavour of the Strawberry can hardly be said to have been achieved. Many of the large and handsome varieties now grown are wanting in flavour, and cannot be creditably compared with some of the older ones, so far as this important particular is concerned. In that the raisers have increased the fruit-bearing capacity and enhanced the hardiness and vigour of the Strawberry they have, however, done good work, and it will doubtless not be long before some of the most handsome of the new varieties have a better flavour.

CULTIVATION OUT OF DOORS.

To successfully cultivate Strawberries in the open ground demands, primarily, a thorough preparation of the latter. The plants are but short-lived, and the assistance that can afterwards be given to them, although material, is not comparable to that afforded by properly preparing the ground in the first place. As a rule the Strawberry plant never produces such fine fruit as in the first two seasons. The very best fruit is obtained the first year after planting, although perhaps not in such quantity as from the second year's crop. In many gardens, however, the Strawberry plantation is allowed to remain on the ground for three years, and if the land was in the

first place well prepared excellent fruits should be had for three seasons; in the third year they probably will not be so large as the fruits previously obtained, although the quantity may be equal. One sees, therefore, that three years (at the most) is the period during which the Strawberry plant produces its best fruit, and the necessity for having the land in the best condition before planting should be obvious.

SOIL.

No plant perhaps delights in a deep rich loamy soil more so than does the Strawberry, and to enable it to produce good crops of really first class fruit that should be provided. It is a commendable practice to cultivate Strawberries upon ground that has recently been occupied by Celery, for the making of the trenches for this vegetable will have had practically the same effect upon the land as if it had been trenched in the orthodox manner. Specially trenching the ground can hardly be said to be necessary to the cultivation of the Strawberry in the way that it is to fruit trees, for the roots of the former do not go nearly so deeply in search of food as do those of the latter.

A. P. H.

(To be continued.)

MISCELLANEOUS.

EARLY MARCH IN TRESCO ABBEY GARDENS, ISLES OF SCILLY.

THE Reserve Squadron this year included the Isles of Scilly in the programme of their spring cruise, and, being a guest on board one of the battleships, I was enabled to renew my acquaintance with the Tresco Abbey Gardens. At no time in the year can a visit to these far-famed gardens be devoid of interest, and though at the commencement of March the brilliant midsummer effect of breadths of glowing *Kalosantes* and resplendent masses of *Mesembryanthemums* was lacking, the attention was soon absorbed in making a mental note of the numerous rare and beautiful plants that were flowering on all sides. Many of the *Correas* were in fine bloom, these including *C. cardinalis*, *C. Harrisii*, *C. virens*, *C. alba*, and others. *Agave arborescens* hanging over a cliff face made a bright note of colour with its orange-scarlet tapering heads of bloom, and of the many species of *Acacias* successfully cultivated in the gardens several were blossoming, amongst these the most noticeable were *A. dealbata*, *A. thelastroides*, *A. longifolia*, *A. rotundifolia*, and *A. melanoxylon*, the last a splendid tree about 50 feet in height, literally covered with pale yellow flowers, which were thrown into high relief by a back ground of *Firs*. *Arctotis arborescens* and *A. aspera*, though out of flower, were showing a few scattered blossoms. The former species had made rampant growth, forming a mass some 12 feet in length and 5 feet high. In the Scillies it blooms profusely in the summer, a character that, according to my experience, it does not show on the mainland, where in ordinary soil it does not blossom with sufficient freedom to be strikingly ornamental. *Agapanthus umbellatus*, even thus early in the year, held here and there a blue bloom-scape, and *Antholyza aethiopica* by the pathside was bearing numerous flower spikes set with their long, tubular scarlet blossoms.

A fine shrub of *Anopterus glandulosus* from Van Dieman's Land, about 6 feet in height, had just

expanded the first of its white Lily of the Valley-like panicles, and in the west of the rocky pondlets *Aponogeton distachyon* was in flower. *Candollea tetrandra* was freely set with its clear yellow, single flowers, and great bushes of *Cytisus racemosus* were in good bloom, as was also a white *Cytisus*. A fine specimen of *Datura sanguinea*, some 8 feet in height, which had been blossoming more or less since the preceding summer, held some dozens of its drooping long-tubed flowers, and *Drimys aromatica* was also in bloom, as were *Edwardsia* (*Sophora*) *microphylla*, the pretty *Fuchsia cordifolia*, with its handsome scarlet and green flowers, and *Grevillea rosmarinifolia* a good month earlier than on the mainland. Along a rock-edged border *Lithospermum prostratum* was displaying its deep-blue blossoms, *Megaseas* (*Saxifraga cordifolia*) were in full flower. *Paris Daisies* were carrying a fair scattering of bloom, and many of the scented-leaved *Pelargoniums* were thickly set with blossom. The *Mesembryanthemum* season was still some months distant, but out of the 120 species grown at Tresco Abbey one, *M. productum*, was a sheet of rosy purple, and the brilliant orange *M. aurantiacum* was rapidly coming into bloom. Trees of *Sparmannia africana*, about 12 feet in height, both single and double flowered, were in fine blossom. A splendid specimen of *Rhododendron argenteum*, seventeen years old and some 13 feet high, was in flower, its trusses of large white blooms being very ornamental, while some of the *R. arboreum* section were also in flower.

Though one's interest is, naturally, most attracted by subjects that are in flower at the time of a visit to any garden, it is impossible to be at Tresco without being struck with the number of rare exotics, not necessarily in bloom, which are met with in every corner of the grounds. Of *Palms* a specimen of *Corypha australis*, which, as far as I know, does not become established in the open on the mainland, though I have met with a form of *Chamærops* masquerading under this name in certain gardens in the south-west, about 7 feet in height, was the picture of health; and young plants of *Phoenix canariensis*, 5 feet or so high, were doing well. *Chamærops* (*Trachycarpus*) *Fortunei* and *C. excelsa* were represented by fine examples about 15 feet in height. Of the many *Agaves*, *A. salmiana* was conspicuous for its noble form, and in the large collection of *Aloes* the

fiercely-spined *A. ferox*, growing in masses over the rocks, was an interesting feature. A fine *Dasyliiron acrotrichum* growing near the abbey had thrown up a tall flower-spike during the preceding summer, a portion of which was still visible. *Puya chilensis* had covered a space of some 20 feet square with its great Aloe-like leaves, and gave evidence of having flowered freely, while *P. caerulea* was also noteworthy. Fine young trees of *Araucaria excelsa*, about 20 feet high, showed vigorous health, as did an excellent specimen of *A. Bidwilli*, the Moreton Bay Pine. Among the numerous representatives of the *Dracena* family a young plant of the Dragon Tree (*D. Draco*) about 6 feet high was evidently at home, but *Cordyline indivisa*, which flowered in April, 1895, and an illustration of which appeared on page 86, vol. xlix., of THE GARDEN, though in considerably better health than at the time of my last visit in August, 1898, had not entirely regained its proportions of 1895. Since that date it has on several occasions pushed out flower-spikes, but these have been removed owing to the weakening effect of flower-bearing. A large *Banksia grandis*, 30 feet in height, was still carrying some of its bottle brush-like flowers, and another tree with somewhat similarly shaped blossoms, *Callistemon speciosus*, had flowered abundantly. Another genus often confounded with *Callistemon*, namely, *Metrosideros*, was well exemplified by several fine trees of *M. robusta*, from 25 feet to 30 feet in height, which in July are covered with their brilliant crimson flowers.

A feature of these trees is the aerial roots that hang from their branches. An interesting tree was *Myoporum laetum*, bearing lanceolate leaves covered with countless pale-coloured spots, which are transparent when the leaf is held up to the light. *Clethra arborea* 16 feet in height is in the summer white with its charming flower racemes, and the huge clump of *Iris robinsoniana*, the Wedding Flower of Lord Howe's Island, might easily have been mistaken for the New Zealand Flax (*Phormium*) with its great leaves 5 feet and more in length. This *Iris*, or *Morea*, is grown in one or two gardens on the mainland, but I believe has never flowered in the open anywhere in the British Isles except at Tresco Abbey, where its bloom-spikes attain a height of 7 feet. Near a series of rock-girt pools formed of late years a fine Prickly Pear (*Opuntia*) is growing. In these pools

THE CAMPANULA IN FRONT IS *C. PUSILLA*; NEXT TO IT *C. MURALIS*.

are grown the best of Marliac's Water Lilies, and the blue *Nymphaea stellata* has endured the winter unprotected. It has, however, been found advisable to lift this species and return it to the pond in the late spring so as to induce earlier flowering. Other notable trees and shrubs were *Banksia littoralis* and *B. serrata*, *Cassia corymbosa*, *Desfontainia spinosa*, *Eriostemon buxifolius*, *Escallonia organensis*, *Heliocarpus cyaneus*, *Mela-leuca hypericifolia*, *Olea fragrans*, *Dodonaea excelsa*, the Camphor Tree (*Dryobalanops aromatica*), *Echinum callithyrsum*, *Embothrium coccineum*, *Eurya latifolia*, and *Psoralea pinnata*.

In a sheltered spot in the lower level of the gardens are some splendid Tree Ferns. On the mainland, where Tree Ferns are successfully grown in retired nooks, *Dicksonia antarctica* is the species most to be depended upon, but at Tresco Abbey other species are equally at home. *Cyathea medullaris* has fronds over 7 feet in length, and *C. dealbata* is also in the best of health, while *Dicksonia antarctica* and *D. squarrosa* are both fully 15 feet in height and carry enormous heads of wide-spreading fronds.

A short visit to the Tresco Abbey bulb farm, where the business of cutting and bunching many thousands of Narcissi was in full swing, ended a most enjoyable and instructive afternoon. It was the height of the season for the Narcissi, and the morning the Reserve Squadron anchored in St. Mary's Roads a record had been made by the Penzance steamer loading 48 tons of flowers for the English market, while the two preceding boats had carried between them 80 tons.

S. W. FITZHERBERT.

HARDY FRUITS IN SEASON.

APPLE BRAMLEY'S SEEDLING.

ANOTHER comparatively new and valuable culinary Apple is the above. It was introduced into public notice about the same time as Newton Wonder (illustrated and noticed in THE GARDEN of March 15), and has received the first-class certificate of the Royal Horticultural Society. As an orchard tree it does not come into bearing quite so soon as many other popular culinary sorts, but when once the tree is established it is a certain and prolific bearer. The fruit must be classed amongst the largest; it is of great weight and substance, is of rather acid flavour, not unlike Wellington in this respect, a most

distinct and valuable late sort, and is in season from Christmas to April. The variety is one of the strongest growing Apples I know, and, like Blenheim, the tree with age will attain enormous size and proportion. It is more fitted for the orchard than the garden. At the same time, when worked on the Paradise stock a few bush or pyramid trees will be found useful in the garden, for worked on this dwarfing stock the growth of the tree is kept within moderate limits and its early fruiting assisted.

OWEN THOMAS.

CORRESPONDENCE.

(The Editors are not responsible for the opinions expressed by their correspondents.)

THE VANISHING BULB.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—I have read with much interest in your issue of March 22 the excellent letter of Mrs. Leslie Williams on "The Vanishing Bulb." I admire the persistency with which your correspondent perseveres in again and again endeavouring to grow plants which she has previously been unsuccessful in attempting to do. I have no doubt, however, if the truth were known, her successes are much greater than her failures. As an old plant lover and grower (it is now sixty-five years since I began to collect), I may, perhaps, be allowed to give shortly my own experience in regard to some of the plants spoken of.

First of all, as regards Cyclamens, there is no plant which gives me less trouble. The hardy species such as *coum*, *europæum*, *hederæfolium*, *repandum*, *Atkinsii*, &c., grow like weeds all over my garden in some places where nothing else thrives, preferably where there is some shade. They grow freely from seed, but some of the old plants have very large corms and increase from year to year. The late Mr. James Atkins, of Painswick, who was so celebrated a grower of these plants, gave me my first roots, and, what is more, inspired me with a love and taste for rock gardening and for growing hardy perennials which has been a source of continual pleasure ever since.

He was by far the most successful cultivator of difficult, rare, and delicate out of door flowers I have met with. His collection of Saxifrages was, I believe, unequalled, the more tender ones being grown in 6-inch or 9-inch pots and plunged in sand in a cold frame during the winter, forming splendid specimens full of blossom when turned out in the spring.

Such plants as *Phyteuma comosum* and other alpine rarities were quite at home with him. His rockery, too, with masses of *Tropeolum polyphyllum* covered with

golden chains of flowers was quite a sight. At one time I lost a good many things yearly from injudicious treatment, but *experientia docet*, and now I have comparatively few failures to record except such as are unavoidable in very severe winters like 1895, when most of a large stock of *Kniphofia* succumbed to the intense frost. Of course, many things require renewing from time to time, sometimes from having over-flowered or exhausted the soil round them.

I should like some time, if you will allow me—[With great pleasure.—Eds.]—to give my experience as to what can be grown in a small garden of little more than an acre with no special advantages of soil or climate.

Ross, Hereford.

H. SOUTHALL.

THE PROPOSED ROYAL HORTICULTURAL SOCIETY'S HALL.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—It is most satisfactory to find that the site of the proposed Horticultural Hall, which abuts or looks on to that fine open space, Vincent Square, is in a much better position than was originally thought possible. At present, covered with houses, the leases of which are expiring, it was a matter of absolute necessity that notice as to the termination of those leases should be given at once, hence the apparent hurry in calling the recent special meeting of the Fellows. There are capital, indeed, wide approaches to the hall from Victoria Street, whilst the position is relatively much quieter than is that of the Drill Hall. There is evidently little traffic, and there should be ample room for loading or unloading vans without causing any public inconvenience. The site is not more than four minutes' walk from the Victoria end of James Street. So far all is satisfactory. The overwhelming vote given in what was the largest meeting of Fellows I have ever seen showed plainly how strongly were the minds of those present set on the erection of a hall. Still further, the vote was one absolutely of confidence in the council's financial capacity to deal with the difficult subject of cost. Whilst all must respect the views of such estimable gentlemen as Mr. Shea and Mr. Bennett-Poë, still there are on the council gentlemen of undoubted financial ability, and it can hardly be doubted but that they have considered the matter fully. Certainly, had there been any wavering on the part of the meeting with respect to voting, it would have been strongly influenced by the able speeches of Sir W. T. Thiselton-Dyer, Sir Michael Foster, M.P., and Dean Hole.

It is not now in any sense the question of the provision of a garden, greatly as such a garden is needed, it is useless for those who favour it to kick against the pricks. The great majority of the Fellows—and there can be no doubt but that those present fairly represented the views of the absent ones—have resolved upon a Horticultural Hall, and a hall will be provided. It is now to be hoped that amongst the thousands of Fellows, many of whom are wealthy, it will be comparatively easy to raise in voluntary donations the entire sum needed to erect the hall and offices, and that it will be a handsome, lofty, well-lighted, and warmed hall, such as shall make not only a splendid show and meeting place, but shall also be much sought after by others for bazaars, concerts, meetings, conferences, and such other things as are constantly held in London. Right in the centre of a vastly populated district, a splendid hall should earn to the society fully £1,000 per year.

A. D.

AGAPANTHUS UMBELLATUS ALBUS.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—I observe Mr. Dugmore's remarks *re* my advice on the above plant. If Mr. Dugmore will kindly again read those remarks he will find they had reference only to pot plants. I have never tried this *Agapanthus* outside, because I regard it as of doubtful hardiness; it would probably require some sort of protection during winter on these hills, and



APPLE BRAMLEY'S SEEDLING. (Height of original $3\frac{1}{2}$ inches, width $3\frac{3}{8}$ inches.)

especially so in this garden, where a considerable amount of moisture collects during autumn and spring, which I regard as far more disastrous than sharp frost with less moisture. I must, however, confess that the advice given is very contradictory, and must confuse rather than clear up any point of culture; but so far as my own treatment is concerned I am satisfied that it will answer for pot plants. I am, however, putting another little matter to test, viz., dividing a plant into single crowns and potting the largest singly, and the smaller ones by themselves, as I have an idea that these smaller ones go a long way towards preventing the larger from flowering. With regard to the variety I find that the one I grow has leaves exactly intermediate between those of *A. mooreanus* and the ordinary blue form. The plants are now developing their leaves. The one here is deciduous only according to treatment; if water is withheld it becomes so, if kept moist it retains a certain amount of foliage.

T. ARNOLD.

The Gardens, Cirencester House.

THE INDOOR GARDEN.

CAMPANULA PYRAMIDALIS IN POTS.

FEW plants are more showy in July than *Campanulas*, and few more easily cultivated for indoor decoration. When well grown they are charming. There are so many varied tints among the *Canterbury Bell* section that they are always very useful for cool conservatories. The *Campanulas* being biennials should be sown early in the spring, either March or April. It is necessary to guard against damp, as when sown thickly in pans in a warm house they soon damp off. It is also necessary to sow the seeds evenly to prevent damping, and as soon as the plants are well up remove to a shelf or frame, keeping close to the glass. It is best to secure the seed from a good dwarf strain. I have for years taken much interest in *Campanulas*, and have annually selected the dwarfest plants with good substance in the blooms. I have tried the well-known plan of planting out the seedlings in the summer and lifting into pots in the autumn or early in the spring, but I prefer pot culture, using 7-inch or 8-inch pots, and getting the pots well filled with roots by the late autumn. They will then stand our winters in a cold frame or plunged over the rims of the pots on a sheltered, well-drained border, as they suffer more from damp than cold. We usually sow in a temperature of 60° in well-prepared soil, and cover with a piece of glass or a hand-light and keep moist. The seedlings are pricked off as soon as ready to handle into 3-inch pots and shifted on as required. It is also a good plan if the plants are not large to winter them in 6-inch pots, and to shift into 8-inch ones early in March. In this way more plants can be stored,

and there is less loss than when potted late in the autumn. When planted out, they should be placed in their quarters as soon as large enough. I have usually pricked them out into boxes from the pans, they then lift with a nice ball and grow much stronger than when planted out of the seed pan. I find this the best system to adopt, and though it entails more labour, it gives much finer heads of bloom that are useful for large vases when cut. The *Campanulas* are water-loving plants when in robust health, and therefore require abundant supplies of moisture and feeding when they commence to grow in spring. They should have a large proportion of loam with some decayed manure in the compost, and not too much drainage at the last two shifts. They do well with some old mortar rubble mixed with the soil, and if the manure is omitted some bone-meal is a good substitute.

The *Chimney Campanula* (*C. pyramidalis*) if sown at the same time as *C. Medium* is a grand plant to form a succession to the last named. It requires much the same treatment, but is not quite so strong and more suitable for pot culture than others, and comes into bloom at the end of July, lasting for some time if the dead blooms are removed as they go off. I find this variety more subject to damp than *C. Medium*, and do not advise extensive planting out, but pot culture. These plants also require fifteen or sixteen months from the time of sowing the seeds if large specimens are desired; indeed, they will not give good spikes the following season if not sown early. Some will fail to bloom at all, so that early sowing is necessary. Care should also be taken that the seedlings are not all selected from the strongest when potting, as they are often all of one colour, and in these, as in the first named, there are many shades of colour in the blues and whites. *C. pyramidalis* may

also be increased from suckers, especially if any good variety is required to be kept. These are readily propagated if taken off with a heel and placed in a cold frame in small pots in a sandy compost. Many of this section attain a height of 4 feet to 6 feet when well grown, but in these, as in *C. Medium*, I prefer those which give strong spikes and are not so tall. A sturdy plant with numerous spikes of bloom is very showy, and does not require so much staking. There are also numerous other varieties all worth pot culture, but for general use those named give the largest quantity of bloom and are readily grown in an ordinary frame or greenhouse.

W.

GARDENING OF THE WEEK.

KITCHEN GARDEN.

WORK in this department will now be most pressing, both as regards planting the crops and attending to those already planted. Much will depend on the locality, the nature of the soil, and the state of the weather, but no opportunity should now be missed, especially on heavy land, when it is in workable condition, of getting in the various seeds, plants, &c. The serious damage done to the ground by working on it when in a moist and soft condition can hardly be over-estimated, but, as sometimes is the case, we have a number of wet days, the difficulty can partly be got over by using light boards for walking on. The ground between the rows may be lightened by pointing over with a fork later on.

ASPARAGUS BEDS

should be neatly raked, and on light soils apply a good dressing of soot and also some reliable artificial manure. Small-growing Cauliflowers, such as *Early Forcing*, may be planted between



CAMPANULA PYRAMIDALIS IN THE CONSERVATORY AT HADSOR, NEAR DROITWICH.

the beds, but it is a bad practice to attempt to grow any other crop, such as Lettuce, &c., on the beds.

POTATOES.

From the beginning to the 20th of April I consider the best time for planting the main crop of these, and if the sets have been properly prepared by laying them out on trays singly in a fairly light place, so that the young shoots are stout and sturdy, they will be much safer than if planted at an earlier date. It is when the tubers are allowed to lay thickly in a dark and too warm a building that they become damaged. In planting Potatoes I consider by far the best plan is to open small trenches with the spade rather than to dibble them in, and if possible place either a little leaf soil or old Mushroom bed manure over the sets, and then the finest of the soil taken from the trench. Small marks should be made down the centre of the trench with the hoe, so that the surface soil may be stirred if necessary before the young growths appear.

CARROTS.

The main sowing should be made any time before the end of the month on well-prepared ground, but, especially for this crop, choose a time when the ground is in a dry condition. When exhibition specimens are required holes should be bored a good depth with an iron bar and filled up with a finely sifted compost, and there is nothing better, when it can be had, than old potting soil used in a moderately dry condition.

ONIONS.

Where large bulbs are required these will have been brought forward under glass, as previously advised, and they should now be thoroughly hardened off prior to planting out. The site on which they are to be grown will have been previously deeply trenched and manured, but advantage should be taken of fine days to prick it over with a fork. Scatter over the surface a good dressing of soot and wood ashes and a little patent manure or bone dust. The hoe should be used constantly between all growing crops, such as Spring Cabbage, Cauliflowers, Spinach, and Turnips, and a piece of ground ought to be got in readiness for sowing all kinds of Winter Greens.

E. BECKETT.

Aldinham House Gardens, Elstree, Herts.

THE INDOOR GARDEN.

THE CONSERVATORY.

In order to keep up a bright display introduce plants of Azaleas, Lilies, Genistas, Richardias, Cinerarias, Imantophyllums, Lilacs, Deutzias, D'elytras, Roses, and Mignonette. Cleanse and prune the growth of climbing plants. Ventilation should be given according to the temperature out of doors.

EUPHORBIA JACQUINLEFLORA.

Cuttings should now be taken, choosing those that are maturing, and furnished with a heel of the one year old wood. Insert three round the edge of small pots in a mixture of loam and peat, with sufficient silver sand, place in the propagating frame, and tilt the light during the night to allow moisture to escape, as these plants are apt to damp off if kept close.

PLUMBAGO ROSEA COCCINEA

is a lovely old plant that one seldom sees grown nowadays; it is one of the best plants for winter decoration. It is of a free branching habit, producing spikes of red flowers over 2 feet in length during the whole winter. It may be increased as advised for the Euphorbia.

GESNERAS.

Successional batches should be started. They thrive in a light compost of fibrous loam, with a little peat and silver sand added. Thorough drainage should be given, and the compost be pressed moderately firm in potting. Cover the bulbs with almost an inch of soil, and withhold water until growth begins. Keep a sharp look out for thrips. To keep them in robust health they require a moist atmosphere; they like plenty of water at the roots, but must not be syringed, as they dislike water on their leaves.

PERSIAN CYCLAMENS.

Plants that have been flowering during the winter are now going to rest, and must not be neglected, but when required for the next season must never be allowed to become actually dry. Water should be gradually reduced until the foliage dies down. Give shade from bright sunshine, and keep them well syringed, as dry treatment is sure to result in an attack of thrips. Personally, I never grow the bulbs the second year, as one can get generally from 150 to 200 blooms on seedling plants twelve months old. The flowers and foliage are always larger and finer than on old bulbs.

TUBEROSES.

Pot successional batches, place in warmth, and syringe them daily. Attention must be paid to the potting of seedlings, such as Clerodendron fallax, Grevilleas, and Begonias. Lantanas that were propagated in the autumn should be shifted into larger pots. Most of the Lantanas grow rapidly, and, if treated liberally and the laterals kept well pinched, soon make fine specimen plants. They thrive in a compost of three parts fibrous loam and one part leaf-mould, with a little dry sheep manure and sand, and require to be potted moderately firm. Cuttings put in now will make useful plants for autumn flowering. While growing keep them well syringed. JOHN FLEMING.

Wexham Park Gardens, Slough.

THE FLOWER GARDEN.

BEDDING PLANTS

Of every description should now be nearly ready for the purpose for which they have been raised. Strong hardy plants with good foliage and plenty of roots will soon fill the beds if other conditions are satisfactory. If the stock of Calceolarias is short an increase ought to be made at once, one had better have small plants than none at all. Geraniums, Gazanias, &c., might be placed out in the open to harden, though means should be taken to protect them in case of frost at night. The hardy class of bedders may be planted out at any time as soon as the beds are ready for them. East Lothian Stocks, if raised in December, will be ready for planting out now. Carnations, Pansies, Gladioli, Montbretias, &c., should be planted. In planting

GLADIOLI

to any extent for cutting, it is wise to do so in two or three batches, allowing a fortnight or so to intervene. By this means a succession is kept up. It is quite unnecessary to plant them with a trowel, for if drills are made with a spade and the bulbs placed in them, the work is done far more expeditiously and the result is the same. The beds and borders for annuals must now be got ready preparatory to sowing. All turfing should be finished as early as possible. The present is preferred by many for planting evergreen shrubs. Hedges of Hollies, Yews, and Thujas may be made now with every prospect of their doing well; well-broken ground and a good mulching of half-rotten manure are two important items to provide when planting.

HUGH A. PETTIGREW.

Castle Gardens, St. Fajans.

FRUIT GARDEN.

EARLY FIGS.

SUCH early varieties as St. John's, Early Violet, &c., grown in pots, with heavy crops freely growing and their soil full of roots, should be top-dressed with a rich compost, the turfy portions of it being placed upon the rims of the pots, both for the purpose of absorbing liquid manures when given and rendering these of easy application. No fruit responds to correct treatment better than the Fig, but the treatment must accord with the condition under which the trees are cultivated, and pot trees may safely be much more liberally supplied with

nutriment than those planted out in borders. As the fruit approaches maturity, with a view to improve both its flavour and colour, admit air more freely, especially when the weather is warm and otherwise favourable. Expose the fruit to sun and air by removing any superfluous shoots that have been previously overlooked, withhold liquid manure, and diminish the supply of clear water. When the fruit ripens stop syringing and maintain a comparatively dry atmosphere.

SUCCESSIONAL FIG TREES,

where planted out in borders, and having had their shoots thinned and stopped as advised in a previous calendar, should have the fruits thinned early to two or three upon each growth. To the same end a mulching of decayed or dried cow manure will be beneficial, and the border should be liberally supplied with tepid water and periodical soakings of liquid manure. Keep the temperature of the house by artificial means at 60° to 65° by night, and about 10° more by day, allowing it to run up to 85° or 90° during sunshine, always taking care



SUPPOSED HYBRID APPLE, SHOWING ITS FRUITFULNESS.

that proper ventilation is afforded. Close early and thoroughly syringe the foliage, which will both keep red spider in check and promote a desirable moist night atmosphere. Late trees for affording an autumn supply of fruit should have timely attention to disbudding, thinning, and stopping of shoots, bearing in mind that shoots crowded together can neither produce good fruit nor themselves ripen perfectly.

THE CHERRY HOUSE.

Where this house is furnished with trees planted out the borders should be kept equally moist by waterings and a light mulch of short litter. The temperature by artificial means must not exceed 50° even after the fruit is set, or failure will probably result from the fruit dropping during the stoning period. Keep the house as cool as possible during hot sunny weather by syringing the trees morning and evening, opening the ventilators to their fullest extent, and not closing them until the sun-heat has diminished and the temperature fallen below 60°. After the fruit has stoned stop the laterals beyond the fourth leaf, which will ensure a supply of fruitful spurs for next year. These

remarks apply equally to cordon trees planted out and to bushes in pots; in the case of the latter, however, suitable growths should be left where necessary to fill vacancies, and in each case extension should be provided. T. COOMBER.

The Hendre Gardens, Monmouth.

EDITORS' TABLE.

APPLE AND PEAR HYBRID.

Mr. John Ward, Shodon, R.S.O., Hereford, kindly sends us a photograph of a bearing shoot of the supposed hybrid between an Apple and a Pear, and of which we illustrated a single fruit in our issue of the 22nd ult. We have pleasure in here reproducing the photograph sent by Mr. Ward, as it gives an excellent idea of the manner in which the fruits are borne.

OBITUARY.

MR. CHARLES FISHER.

WE regret to record the death on the 21st ult. of Mr. Charles Fisher, of Oakfield House, Handsworth, who was for many years head of the well-known firm of Fisher, Son, and Sibray, nurserymen and seedsmen. Mr. Fisher, who was in his seventy-ninth year, was in good health until recently, when he experienced a heart seizure and died a few days afterwards. Deceased was a life-long resident in the parish of Handsworth, where his father, grandfather, and great grandfather had resided before him. The firm of Fisher, Son, and Sibray was founded by his great grandfather, and the family connexion with it was maintained until a few years ago, when it was converted into a limited company. Mr. Fisher's interest in the business ceased shortly afterwards, and he has since been living in retirement, but still occupying himself with his favourite pursuit of horticulture. Mr. Fisher was recognised in his day as one of the leading nurserymen of the country, and he was well-known and highly esteemed. His long connexion with the Handsworth nurseries added much to the reputation of the business. The cultivation of the garden, however, was to Mr. Fisher more than a business—it was a hobby of which he never wearied, and in which he found a life-long pleasure. His last conversation with members of his family was in reference to the gardens at Oakfield. Mr. Fisher never took a prominent part in public affairs, but he was very highly esteemed in Handsworth and district, and his kindly and genial disposition made him plenty of friends. In Sheffield he was exceedingly well known, although during the past year or two he has not been seen in the city so often as formerly. Deceased is survived by two daughters. Mrs. Fisher died some thirteen years ago.

MR. G. F. WILSON.

WE are very sorry to hear that Mr. Wilson passed away on Good Friday at his residence, Heatherbank, Weybridge Heath, at the age of eighty years, after many months of suffering. The announcement of his death will be a real grief to the hundreds of earnest amateur horticulturists who had the pleasure and privilege of either corresponding with Mr. Wilson or visiting his beautiful woodland and hillside garden at Wisley, where since 1878 he has planted thousands of plants and shrubs from all parts of the temperate world in different soils and aspects for experimental culture.

In the *Times* of Tuesday last a concise account of his life is given, and in it is mentioned that Mr. Wilson was "for many years a managing director of Price's Patent Candle Company. His scientific work included the discovery of the means of obtaining pure glycerine, in connexion with which he read a paper at the Glasgow meeting of the British Association in 1855. The year previously he read before the Royal Society a paper on the value of steam in the decomposition of neutral fatty bodies."

In THE GARDEN of January 1, 1900, page 17,

Mr. Wilson tells in his own words the history of his gardening life, how his first love was for growing pot fruit trees, then to the culture of Lilies, and so on, until the gardens at Heatherbank and Wisley have become a store-house of rare and interesting flowers. Here the blue Primroses, which had their birth at Wisley; there some lovely alpine, perhaps difficult to grow generally, but growing to perfection under this great gardener's care, and in the time of summer trails of colouring from the Japanese Irises, opening in thousands their flat heads of purple, rose, white, and many other shades, seedlings, for the most part, raised in the garden.

Mr. Wilson was a Lily enthusiast, and his notes about the family contributed to the Lily conference last year remain an important contribution to the subject, because they were the result of actual experiments and observation. His notes to the horticultural press were practical. His was a practical nature, and nothing daunted this great gardener in accomplishing his object. Hence plants luxuriate at Wisley that are dismal failures elsewhere, for the reason that probably at Wisley a dozen spots in the garden had been tried before just the right conditions were discovered. The rare *Lilium rubellum*, the little *Soldanellas*, *Shortia*, *Schizocodon*, and other things were quite happy, spreading freely and flowering with delightful regularity.

Many pleasant hours have we spent with Mr. Wilson as our guide, walking along the shady grass paths and roaming in the Iris fields of Wisley, every inch of ground holding some precious favourite, and with the pond sides filled with flowers that seek moisture for their sustenance. Readers of THE GARDEN know all this, for on more than one occasion we have illustrated the most beautiful spots of this woodland retreat.

Here are Mr. Wilson's own words about the beginning of his Lily culture. At first fruit growing was his hobby. "I grew many sorts of good fruit, and got a first prize for early Pears, against thirty-six competing dishes, at the Crystal Palace show," he wrote in THE GARDEN of January 6, 1900, and "the next move was at a sale at Stevens's, where there were some lots of Japanese Lily bulbs, supposed to be sea damaged. The old stagers looked askance at them. I had hopes, and bought lot after lot of fifties, cut down vine cases, planted, and put them in the orchard house. These turned out well; among them a beautiful Lily, allied to *L. elegans*, but of much stronger growth, and with a beautiful gold band in centre of petals, was named *L. Wilsoni*. Another Lily was a grand form of *L. longiflorum*, which M. Max Leichtlin named *L. longiflorum Wilsoni*, but I now believe it to have been the true *eximium*. This success led me to take up Lily growing both in the house and in the open, and Canon Ellacombe named me 'Lily Wilson.' I received twenty-five certificates from the floral committee for Lilies shown for the first time."

Mr. Wilson gave much of his time to the Royal Horticultural Society at one period of its history, and its success at this day is due in no small measure to his ready help and advice in the stormy times of the past. It was at his suggestion that a guinea subscription was started, and he was for years a member of the council, whilst his name figures in almost every list of horticultural charitable organisations as "vice-president."

Mr. Wilson will be sadly missed by thousands of groping amateurs, for whom his helpful advice has ever been forthcoming, and we shall never forget the hours spent with this kindly gardener, who was ever ready to help others and welcome those who had horticulture at heart to his lovely woodland garden at Wisley.

Mr. Wilson was a fellow of the Royal Society and a Victorian Medallist of Honour.

SOCIETIES.

ROYAL HORTICULTURAL SOCIETY.

THE exhibition at the Drill Hall on the 25th ult. was perhaps the best yet held this year. Orchids, forced plants, and hardy plants were in great variety. Hardy fruits were well represented, and Narcissi also were very numerous. No less than



THE LATE MR. G. F. WILSON, F.R.S., V.M.H.

thirteen awards (four first-class certificates and nine awards of merit) were made by the Orchid Committee. Messrs. J. Veitch and Sons' display of hardy fruit won the society's gold medal.

ORCHID COMMITTEE.

Present: Messrs. Harry J. Veitch (chairman), James O'Brien, de B. Crawshaw, J. Charlesworth, H. Ballantine, Walter Cobb, Jas. Douglas, John Cypher, F. W. Ashton, H. A. Tracy, H. T. Pitt, H. J. Chapman, Frank A. Rehder, N. F. Bilney, G. F. Moore, E. Hill, J. W. Odell, F. J. Thorne, W. H. Young, W. Boxall, W. H. White, W. B. Latham, J. G. Fowler, H. Little, and C. J. Lucas.

Messrs. Stanley, Ashton and Co., Southgate, N., exhibited a group of *Laelia jongheana*. The flowers showed considerable variation in colour and form, and some remarkably good ones included a pretty variety of *Lycaste Skinneri*, *L. S. denholmiana*, having the upper lobes of a rich crimson and the lip almost white. *Cymbidium Lowi-eburneum* was also well shown. Silver Banksian medal.

Messrs. Charlesworth and Co., Heaton, Bradford, Yorks, displayed a group of *Phaius* in variety, including *P. Norman*, *P. X. aurea*, *P. Martine*, and *P. Norman rosea*. There were also *Cattleya Louis Chaton* (C. *lawroceana* × C. *Triana*), *Cypripedium Godiva* (*chamberlainianum* × *niveum*), *Odontoglossum wilckeanum*, *Angraecum sanderianum*, *Odontoglossum Adriane* Duchess of Cornwall, and other Orchids of considerable beauty. Silver Flora medal.

W. P. Burkinshaw, Esq., Hesse, near Hull, sent a number of *Dendrobiums*, including several finely-coloured varieties. Particularly striking were *D. × Cybele nobiliss*, *D. Ainsworthii* Virgil, *D. n. nobiliss*, *D. × chlorostele owenianum* superbum × *D. splendissimum* vars. Silver Banksian medal.

H. T. Pitt, Esq., Stamford Hill (gardener, Mr. F. W. Thurgood), displayed a charming group of Orchids in variety; *Odontoglossum* predominated, and there were also *Dendrobiums*, *Cypripediums*, *Vandas*, &c. Two plants in this group obtained awards of merit. Silver Flora medal.

Messrs. James Veitch and Sons, Limited, Chelsea, arranged a number of hybrid and other Orchids. *Laelio-Cattleya Picus* var. (*L.-C. Fallas* × *L. cinnabarina*), *L.-C. Clonia* var., *L.-C. digbyano-Schrodere*, *Cattleya intertexta*, *Cypripedium Leonidas*, *C. madiotianum*, *L.-C. Myra* var. *Princess of Wales*, and *L.-C. Rosalind* var. *Prince of Wales* were some of the best. Silver Flora medal.

Cymbidiums, *Odontoglossums*, *Phaius*, &c., were well shown by Jeremiah Colman, Esq., Gattopark, Beigate. *Cymbidium Lowi-eburneum*, *C. eburneo-lowianum*, *Odontoglossum triumphans*, and *Coleogyne cristata alba* were included. Silver Banksian medal.

Messrs. F. Sander and Sons, St. Albans, exhibited a miscellaneous group of Orchids, including some very well-grown plants of *Lycaste Skinneri* *minor*, *Phaius Cooksoni* var., *Odontoglossum hystrix* var. *Fascinator*, *Cattleya amethystoglossa* var. *Sandere*, *Mitonia vexillaria* × *M. Roezlii*, &c. Silver Flora medal.

M. Florent Claes, 55, Rue des Champs, Etterbeek, Brussels, displayed several beautiful *Odontoglossums*.

Messrs. Linden and Co., Brussels, exhibited *Phalaenopsis amabilis* var. *rimetadiana*, *Odontoglossum × loochristiense* var. *Etoile d'Or*, *O. crispum* var. *Miss Lucienne* Linden, *Cypripedium lawrenceanum*, &c.

Captain Holford, Westonsbirt, Tetbury (Orchid grower, Mr. Alexander), showed *Dendrobium Sybil magnificum*, *Sophro-Lelia laeta orpetiana*, &c. Two awards and one first-class certificate were awarded to plants in this exhibit. Reference is made to them elsewhere.

Mr. W. B. Latham, Botanic Gardens, Birmingham, showed *Cypripedium edgastoniensis* (C. *nitens* × *chamberlainianum*), a pretty flower showing well the parentage. Mr. Latham also showed *C. deudmanianum*.

Sir Trevor Lawrence, Bart., Burford, showed a small

group of Orchids, comprising *Cœlogyne sparsa*, *C. pulchella*, *Odontoglossum andersonianum*, and others.

Messrs. Hugh Low and Co., Eush Hill Park, Enfield, exhibited *Cattleya Regnelli schilleriana*, *Cypripedium shillanum* (C. rothschildianum × C. superbiens), *Cattleya Trianae* Phyllis, *Lælia Iona*, &c.

ORCHIDS CERTIFICATED.

The following obtained a first-class certificate:—

Cattleya guttata Prinzii var. *Sanderæ*.—This is the white form of *C. amethystoglossa* (*guttata* Prinzii), and quite unique. The lip is prettily frilled, and it and the petals have no tinge of colour in them. Exhibited by Messrs. Sander and Sons, St. Albans.

Odontoglossum Adriane Mrs. Robert Benson. —Delicacy is the impression conveyed by the appearance of this flower. Somewhat pale chocolate-brown blotches are numerous upon a ground colour of pale sulphur, deepening at the edges. The raceme is extremely graceful, and that exhibited bore fifteen flowers. From Captain Holford, C.I.E., Westonbirt (Orchid grower, Mr. Alexander).

Lælio-Cattleya digbyana-Schroderæ.—The parents of this hybrid are *Cattleya Schroderæ* and *L. digbyana*. It is a lovely flower, the petals and sepals being bluish and the delicately frilled lip has a mass of yellow in the throat. Exhibited by Messrs. J. Veitch and Sons, Chelsea.

Lælio-Cattleya Rosalind var. *Prince of Wales*.—The petals and lip of this new hybrid (whose parents are *L.-C. dominiana* and *Cattleya Trianae*) are remarkable for their colouring. The former are splashed with shades of purple, and the lip is an intense purple with a yellow throat. From Messrs. J. Veitch and Sons, Limited, Chelsea.

Awards of merit were given to the following:—

Lælio-Cattleya Myra var. *Princess of Wales*.—This is undoubtedly the best of the plants obtained from this cross (*Lælia flava* and *Cattleya Trianae*), or, at any rate, of those exhibited. The sepals and petals are a deep orange-yellow, of good size and form, and the lip has a broad margin of crimson. From Messrs. James Veitch and Sons, Limited, Chelsea.

Odontoglossum loachianense Lady Victoria Grenfell. —A handsome flower, the ground colour of rather pale yellow, being heavily spotted with chocolate-red. The plant exhibited by Captain Holford, C.I.E., Westonbirt (Orchid grower, Mr. Alexander), bore a raceme of nine splendid blooms.

Sophr.-Lælia lutea orpetiana. —A beautiful flower of a blending of soft rose and crimson-purple colouring. The throat is yellow. The plant is quite dwarf. Exhibited by Captain Holford, C.I.E., Westonbirt.

Odontoglossum ruckertianum pittianum. —This *Odontoglossum* is shaded with dull purple upon a pale ground, and is heavily spotted on the sepals with chocolate, while the petals are less heavily marked. Exhibited by H. T. Pitt, Esq., Stamford Hill, N. (gardener, Mr. F. W. Thurgood).

Cattleya Parthenia vernalis. —A pretty flower of excellent form, whose parents are *C. Mossie* and *C. fimbriata*. The petals and sepals are pure white, the lip prettily marked with lilac-purple, and towards the throat with yellow also. From Lord Rothschild, Tring Park.

Cypripedium laurenceanum. —Messrs. Linden and Co., Brussels, were given an award of merit for a splendid form of this well-known *Cypripedium*.

Odontoglossum crispum var. *Miss Lucienne Linden*. —A rather small flower (as shown at the Drill Hall), with a white ground. On each petal is a broad mass of reddish brown, and the sepals are less heavily marked. Exhibited by Messrs. Linden and Co., Brussels.

Dendrobium Rolæ roseum. —A delicately pretty flower, a natural hybrid between *D. nobile* (?) and *D. primum*. The sepals and petals are tipped at their apices with rose-purple, and the lip also. From W. G. Burkinshaw, Esq., Hesse, near Hull (gardener, Mr. J. T. Barker).

Cypripedium William Pitt. —A charming flower, fairly large, the dorsal sepal thickly lined with grey and rose, the petals having even more dense and highly coloured markings. The lip is rose-coloured. Both parents of this flower are apparently not definitely known. One is evidently *C. dayanum*. Exhibited by H. T. Pitt, Esq., Stamford Hill (Orchid grower, Mr. F. W. Thurgood).

FLORAL COMMITTEE.

Present: Mr. W. Marshall (chairman), Messrs. C. T. Drury, G. Nicholson, John Jennings, J. F. McLeod, W. Howe, J. A. Nix, C. Jeffries, C. J. Salter, W. Bain, H. J. Cuthbert, C. E. Shea, W. P. Thomson, E. H. Jenkins, W. J. James, R. Wilson Ker, C. Blick, R. W. Wallace, and Rev. F. Page Roberts.

One of the best collections of choice alpine and allied things was a nicely staged lot from Messrs. Jackman and Son, Woking, the plants both in their variety and freshness deserving every praise. Such things as *Primula denticulata* alba, *P. viscosa* nivea, *P. rosea*, blue *Primroses*, *Phlox divaricata*, *Saxifraga apiculata*, *Anemone Pulsatilla* alba (very choice), *Androsace pyrenaica* (a cushion of white flowers), *Tulip Greigi* (very rich), the exquisite blue of *Omphalodes verna*, *Megasea ciliata*, some enormous rosettes of *Ranunculus pyrenaica*, these and many more were arranged in a manner distinctly creditable, and above all interesting because demonstrating better than words the uses and general adaptability of a very charming class of plants. Silver-gilt Banksian medal.

Messrs. R. Wallace and Co., Colchester, set up a nice lot of early bulbous plants in small pans, notably several kinds of *Muscari*, the rich blue and pure white of *Scilla sibirica* and its white variety alba, *Fritillaria pudica*, *Chionodoxas* in plenty, *Puschkinia scilloidea*, and a lovely new *Fritillaria* of a deep glossy maroon nearly black. As shown it is about 6 inches high, though reputed to come much stronger. *Anemone Pulsatilla*, *A. blanda*, *Tulipa kaufmanniana*, with many pots of choice *Daffodils*, were also shown. Silver Banksian medal.

Mr. A. Wade, nurserman, Colchester, showed pots of *Anemone blanda*, *Chionodoxas*, *Iris reticulata*, *Bulbocodium vernum*, and pots of forced *Trumpet Daffodils*.

Messrs. T. S. Ware, Limited, Feltham, set up a varied lot of hardy plants in small pots chiefly, comprising such

choice things as *Shortia galacifolia*, *Lithospermum canescens*, with golden flowers, *Anemone vernalis*, exhibiting some variety of colouring, *Primula frondosa*, *P. verticillata*, *Soldanella alpina*, double yellow *Wallflowers*, *Fritillaria aurea*, *Iris Sindjarensis*, *Androsace carnea*, &c., besides many interesting *Cacti* not in flower. Vote of thanks.

Mr. G. Mount, Canterbury, had a fine lot of *Roses*, many with long sturdy stems of quite 18 inches, and here we noted the richly coloured *Captain Hayward*, *Baroness Rothschild*, *Margaret Dickson*, and others. Then in boxes were such popular kinds as *Bridesmaid*, *The Bride*, *Niphetos*, *Catherine Mermet*, and others, all in the pink of their beauty. Silver-gilt Banksian medal.

Messrs. T. Cripps and Son, Tunbridge Wells, had a specimen of their new and handsome *Retinospora obtusa* Crippsi 7 feet high, a richly golden hued plant, and by the side of it were small plants of less than 1 foot, but just as rich in colour. A set of *Acers* included *A. palmatum palmatifidum* (green leaved), *A. p. flavescens*, and *A. japonica*. In the midst was a fine lot of *Rogiera cordata*, an old-time favourite, with numerous heads of coral red and flesh-coloured fragrant flowers. It is unfortunate such good free flowering things are so much overlooked nowadays.

Messrs. Hugh Low and Co., Enfield, had a small group of plants, in which were *Crimson Rambler Rose*, *Magnolias*, *Acacias armata* and *Drummondii*, *Prunus triloba*, *Chorozemas*, *Hydrangeas*, *Ghent Azaleas*, *Malmesbury Carnations*, with *Ferns*, &c., as a groundwork. Silver Banksian medal.

Messrs. J. Laing and Sons, Forest Hill, had a mixed group in two sets, one consisted of *Acers*, *Forsythia suspensa*, *Staphylea colchica*, *Choisya ternata*, *Fothergilla alnifolia*, with white heads of flowers, &c., the other comprising *Dracenas*, *Genistas*, *Palms*, *Epacris*, *Eriostemonas*, the yellow spotted *Arum*, *Anthuriums*, and other plants. Bronze Banksian medal.

Messrs. H. Cannell and Sons, Swanley, set up a large group of the *Star Cinerarias*, varied in colour and equally in the size and stellate characters of the blossoms. The plants were well grown and abundantly flowered. Silver Banksian medal.

Messrs. R. and G. Cuthbert, Southgate, had a fine arrangement of two kinds of *Ghent Azaleas*, viz., *A. occidentalis*, white, top petal yellow; and *Alteclarensis*, deep orange-gold. There were some five dozen fine plants grandly flowered. In both instances all the plants shown were seedlings of the types named, and a remarkable feature was the many beautiful variations, while retaining much of the original character. The plants made a rich display, assisted with *Acers* and other foliage things. Silver-gilt Flora medal.

Messrs. Veitch and Sons, Limited, Chelsea, had a well-grown lot of *Imantophyllums*; seedlings, apparently, by the variety of colour displayed. There were also such interesting things as *Corylopsis pauciflora*, *Azalea linearifolia*, and the very beautiful *Atragene austriaca* of a nice shade of blue. Messrs. Veitch also showed a varied collection of *Ilyacanthus* in all the best sorts, though we think that the varying shades of blue were the best on this occasion. For example, *Lord Derby*, *Pearl Brilliant*, *Electra*, *Queen of Blues*, and *Enchantress* are all distinct in the blue shades and some very fine. *L. Innocence* and *Mont Blanc* were very good of white kinds, with *La Belle* and *Queen Alexandra* of pink shades, and *Ida* and *City of Haarlem* good representatives of the yellows. Silver Flora medal.

Messrs. William Cuthbush and Sons, Highgate, staged a splendid lot of forced shrubs—*Ribes*, *Guelder Rose*, *Staphylea*, *Magnolia soulangeana*, double white *Lilac*, *Thorns*, *Wistarias*, *Laburnums*, *Azalea mollis* vars., *Cytisus precox*, and *Ceraus luteola*, which, bearing nearly pure white flowers, hardly suggests the specific name. A margin of *Ophiopogon Jaburan* fol. var. completed an excellent arrangement of these useful plants. Silver-gilt Banksian medal.

Mr. Robert Sydenham showed *Daffodils* growing in fibre, and very good indeed as a result of this simple mode of culture. Mr. Sydenham also exhibited a new vase for the arrangement of cut Sweet Peas.

Mrs. Patrick H. Maxwell, Court florist, Victoria Street, displayed a table arrangement of *Violets* and *Daffodils*.

Mrs. F. W. Curry, Lismore, Ireland, had a good display of *Daffodils* of many leading kinds. *Topaz*, very bright; *Lismore* and *C. J. Backhouse* were very good and well coloured.

Messrs. Barr and Sons, Covent Garden, had a most extensive lot of plants, baskets and pots being filled with such dainties as *Narcissus minor*, *N. minimus*, *N. cyclamineus*, and in company single and double *Hepaticas*, *Chionodoxas*, *Fritillaria aurea*, *Anemone fulgens*, *A. blanda*, *Ilyacanthus azureus* robustus, *Narcissus triandrus pulchellus*, &c. In addition were quantities of the leading *Daffodils*, including time unnamed seedlings. Silver Banksian medal.

Mr. L. Brown, Brentwood, Essex, showed *Daffodils* and *Ilyacanthus* in variety.

Messrs. John Waterer and Sons, Limited, Bagshot, displayed a splendid group of *Andromeda floribunda*, smothered with flowers, though as yet not quite open. These splendid plants, which must have been quite twenty years old, were much admired. Vote of thanks.

The Dowager Lady Williams-Wynn, Oswestry (gardener, Mr. G. J. Squibbs), showed *Violets* in very fine form, notably the Dowager Lady Williams-Wynn, fine pale double blue; *New York* and *Marie Louise*, both double and dark blue, but quite distinct; *Comte Brazza*, double white, and very large for this kind; and *Lady Hume Campbell*, of a medium shade of blue. All were finely grown examples with good stalks.

Messrs. Linden, Brussels, showed *Hemantthus maximus*. *Kempferia rotunda*, an interesting plant, came from Sir Trevor Lawrence, Bart., who also showed *Heliobernis* Stephen Oliverich, a rich red plum-coloured kind.

Captain Holford, C.I.E., Westonbirt, Tetbury (gardener, Mr. Chapman), showed several *Hippeastrums*—*Mrs. R. S. Holford*, white and green; *Cardinal Richelieu*, scarlet, white central line, and netted white; *Monarch*, rich blackish crimson; *Countess Grey*, white, red-crimson lines; and *Neil Gwynne*, clear white, with heavy scarlet lines.

Sir Christopher Wren is a fine dark kind, to which we refer again under new plants.

Narcissus maximus in superb form came from Mr. P. D. Williams, Lanarth, Cornwall.

Narcissus Edge Giant, a new *Fritillaria* and *Iris* all came from Miss Willmott, Warley Place, Essex, and to the two latter we refer again under awards for new plants.

FLORAL AWARDS.

A first-class certificate was given to *Iris Warleyensis*.—This very beautiful *Iris* is said to be an entirely new species, though we incline to the view that it is but a well marked form of *I. orchioidea*. Indeed, since for the colour alone, there is much evidence in support of this—the general growth, the shining leafage, and the axillary buds are all indicative of the latter species, and remembering, too, the fact that *I. orchioidea* already possesses a blue-toned variety in *I. o. cœrulea*, this at least would constitute a stepping-stone to the well-marked or much more deeply coloured flower now under notice. But species or variety, it is a lovely plant, and in the rich-toned blue and deeper violet tints that comprise the predominant colours is quite a welcome addition to the early Irises of this set. Exhibited by Miss E. Willmott, Warley Place, Essex.

Awards of merit were granted to *Hippeastrum Sir Christopher Wren*, a very handsome form of the crimson self type, the precise colour being a very dark and glossy crimson, shading almost to black near the base of the segments, a flower too of very fine proportions. From Captain Holford, C.I.E., Westonbirt, Tetbury, Gloucester (Mr. A. Chapman, gardener).

Fritillaria Asabadensis, a new species, with drooping, bell-shaped blossoms of a greenish hue, in which a subdued tone of pale or greenish yellow is infused. The blossoms appear, some six or eight in number, crowning a vigorous growth nearly 2 feet high, the ample leafage being oblong lanceolate acuminate in outline and some 4 inches or more in length and 1 inch broad or rather more at the widest part. The vigorous habit and freedom should go a long way to making it a good garden plant. Exhibited by Miss Willmott, Warley Place, Essex.

FRUIT COMMITTEE.

Present: Messrs. George Bunyard (chairman), Joseph Cheal, Henry Esling, S. Mortimer, Alex. Dean, Horace J. Wright, George Kell, H. Markham, Edwin Beckett, F. L. Lane, James Smith, G. Norman, James H. Veitch, and A. H. Pearson.

Messrs. James Veitch and Son, Limited, Chelsea, exhibited a splendid collection of Apples. The fruits were in excellent condition and of fine appearance. It is surprising what a great number of Apples are now in season, for the majority if not all those in Messrs. Veitch's collection may be said to be in season now. It may be useful to mention some of the best of the eighty-eight varieties shown. Two dishes of Pears were included. All dishes were distinct. Some of the finest were:—*Culinary*: *Newton Wonder*, *Saundersham*, *Beauty of Stoke*, *Flower of Kent*, *Bramley's Seedling*, *Wellington*, *Bismarck*, *Alfriston*, *Hornmead's Pearmain*, and *Striped Beaufin*. Dessert: *Cox's Orange Pippin*, *Christmas Pearmain*, *Reinette du Canada*, *Margil*, *Ribston Pippin*, *Cornish Aromatic*, *McIndoe's Russet*, and *Sturmer Pippin*. Gold medal.

Messrs. J. Cheal and Sons, Crawley, Sussex, exhibited several Apples, including a new one, *Crawley Reinette*. *Sturmer Pippin*, *Scarlet Nonpareil*, *Duke of Devonshire*, and *Brownlee's Russet* were included.

A silver Banksian medal was awarded to R. M. Whiting, Esq., Credenhill, Herts, for a display of Apples.

Mr. E. Beckett, Aldenham House Gardens, Elstree, exhibited two baskets of Mushrooms, for which a cultural commendation was given.

Mr. A. Ksly, 14, Barrowgate Road, Chiswick, W., showed *Pear Catalac*.

Apple Red Elenheim was shown by Messrs. Lane and Son, Berkhamsted.

LECTURE BY PROFESSOR CARR.

Originally announced as on "Defences of Plants," it proved that the actual subject was "Plants in Communities," and really descriptive of the various sections of allied character which thrive in similar situations. Thus there were communities of trees, &c. in forests, grasses and low-growing plants in meadows, aquatics in water, and semi-aquatics in swamps, whilst *Heaths* and *arid-loving* plants were found on dry sand and peat. Plant societies were determined by the nature of the surroundings, and whilst species in each community would materially differ, there were, all the same, in the denizens of each community certain identical characteristics. Light was an essential to all plants, though some preferred a subdued light such as is found under trees. Thus many spring flowers—*Primroses*, for instance—bloomed freely when in spring trees were yet leafless, but when leafage came the shade furnished was most acceptable to the vegetation beneath.

On the other hand, many plants revelled in the full light of the sun, and would not live in shade. Winds exercised material influence on vegetation, and generally beneficially. Its effects were, however, most seen on plants near the sea coast. Interesting descriptions were given of the respective habits of water, dry soil, and intermediate plants, also of that semi-aquatic section found on the sea coast, such as the *Sea Lavender*, *Asparagus*, or such as had a liking for salt. During the lecture numerous pleasing pictures of diverse plants were thrown on the sheet, the first being a cross section of the stem of a *Water Lily*, showing the numerous air chambers in it, thus making it so buoyant. Another picture showed methods of propagation by detachable shoots, which, falling to the bottom, rooted and became new plants, as with the *Aponogeton*. The *Progit* also exhibited the same characteristic. There was also shown a large area of the *Golden Nuphar* on water. Other views were given of fringes of water, showing how plants gradually developed from those purely aquatic to others partially so, then to others liking dryness, and, finally, to a dense bordering of forest trees. In one of these pictures *Lythrum Salicaria*, the *Meadowsweet*, *Epilobium*, &c., were distinctive features.

THE GARDEN

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GEORGE F. WILSON.

AN old friend of the late Mr. G. F. Wilson writes: "With a heavy heart I take pen in hand to say the few words that I know will only echo—and that but imperfectly—the heartfelt sorrow caused by the death of this great gardener. Those who had the privilege of knowing him personally know how warm a corner he had in his heart for all who truly shared his love of flowers, and how unwearied was his kindness in helpful instruction, in gifts of plants, and in cordial hospitality. It was a true pleasure to him to gather round him in his beautiful experimental garden at Wisley those who had a wish to learn more of the treasures contained within his grounds or even to see and rejoice in their beauty. Many were the meetings at Wisley of botanists and other men of science, and those who, like the present writer, were occasionally permitted to accompany these gatherings on that hillside so rich in floral treasures and the cool lower land where the large number of plants of bog, wood, and water found so congenial a home, will ever remember the days of delightful instruction.

"Often gardeners and the best of the amateurs have said among themselves: 'Things grow at Wisley as they grow nowhere else.' The ignorant or casual observer concluded that it was some special merit in the place itself; but those who knew better were aware that the thriving plant was placed as it was either because of Mr. Wilson's accurate knowledge of its wants, or in the case of new plants whose needs in English gardens were as yet unknown, because he spared no risk, expense, or trouble to obtain the plant in quantity and to test it in varying conditions.

"No private garden in England has taught so many and useful lessons, or has taught them so pleasantly. It was impossible to pass an hour at Wisley and not to bring away some useful piece of garden knowledge, its impression being made all the more permanent by the kindly way in which the lesson was given. I know not what is to be the future of the Wisley garden; I only know to my certain and abiding sorrow that the man who made it has gone from among us and that we can never hear his kind voice again."

"A. D." writes: "By the death of this most kindly gentleman horticulture loses one of its finest examples of the true amateur gardener. Mr. Wilson was a real

gardener. It was from no mere love of ostentation or display that made him so devoted to gardening. It was a deep and an abiding love for it which made him give so much of time, labour, and money to his cherished ideals. How ill can such amateurs as he was be spared. Happily we have some others like him left to us yet, and that the race may never die out is indeed a devout wish. It is news to many to learn that in the far-off days at South Kensington Mr. Wilson was for some time chairman of the Royal Horticultural Society's Fruit Committee. In such an office he was, perhaps, hardly at home, as he was essentially a flower and shrub gardener. But those who remember those old South Kensington days may well forget some of its worst and most lamentable associations when they recall the singularly interesting and instructive meetings held in the old council chamber there, when that band of amateur brothers, G. F. Wilson, Trevor Clarke, H. Webb, M. J. Berkerley, and a few others were the usual speakers, and their descriptions of exhibits were always listened to with such great satisfaction. The Royal Horticultural Society is now a very different body from what it then was, and its range of work far greater. But great in these respects as it may be, it never can afford to ignore the exceeding value to the society that such Fellows as Mr. Wilson was, and some others, happily still amongst us. Long may they be spared to horticulture! Such Fellows as these constitute horticulture's backbone, and must rank amongst its brightest patrons."

THE HALL OF THE ROYAL HORTICULTURAL SOCIETY.

WE venture to suggest that to aid the society in their new enterprise all Fellows should contribute the amount of a year's subscription. Many, we feel assured, will freely give more without any prompting on our part. All must be aware what excellent work the society is doing. Those whose yearly subscription is of one guinea must know what an excellent guinea's worth they already receive—in free admission to shows, in receipt of the copy of the *Journal*, which has become one of the most important of horticultural and botanical publications, in the participation in the distribution of surplus plants from Chiswick, the use of the Lindley Library, and various other privileges and advantages.

This year, which is in one great way a year

of national rejoicing, is a fitting time for those who have the interests of horticulture at heart to come forward with practical proof of their willingness to help on the good work; only to be followed, we trust in a few years, by the still better one of a new garden, with fully equipped means of giving complete horticultural education.

THE CULTIVATION OF VIOLETS.—I.

Now that we are enjoying the Violet in all its fragrance the thought to many no doubt will come "I must have still more another year." Many, of course, can only secure the flowers for a short time, but with the convenience of a few cold and shallow frames not only can greater quantities and varieties be obtained, but what is perhaps of greater moment to most is to be able to get gatherings, if only small ones, from autumn until spring. Of course to do this the treatment of the plants in preparing them or raising suitable stock during the summer must be understood, and then there will be no difficulty. The present season, however, is most important in laying the foundation for success, and no time must be lost in commencing their

PROPAGATION.

There are several ways of raising young stock, some better than others, but we are inclined to believe that the least satisfactory one is the most general. This consists of dividing the old plants as they pass out of bloom and planting the young off-shoots or the divisions direct in their summer quarters, where they are expected to grow away at once and make strong plants without further trouble. If the plants have not become thoroughly established with plenty of roots before the heat of summer arrives they will never thrive, unless much attention is paid them in the way of watering and syrioting twice a day.

Treated in the rough and ready way described, probably the greater part of the offsets put out are almost without roots, while they will be quite soft owing to their having been growing thickly together. What chance have such as these to withstand sun and trying winds? None whatever, and they would flag for some time unless the weather proves dull and showery, and therefore much valuable time is lost. We do not favour this plan, in fact, condemn it, and instead resort to the following method: Place a few inches of sandy soil on a hard surface and cover with a shallow frame, and prick into this at once all the strongest cuttings that can be found or the number required, giving preference to those which have not become drawn and weak but are showing a few white roots. They should be placed 4 inches apart, watered, and kept rather close, moist, and shaded. Under these conditions roots will form very quickly, and as there is no depth of soil for them to strike downwards they can be lifted with a good ball of earth attached when the time for planting arrives, no check whatever will be given, and much time saved in establishing the crop. Before transplanting into the summer position they should be hardened off by removing the

lights gradually. There is yet another way of raising the stock, which many who have not frames might follow with advantage, especially when dealing with large old plants. These will now be a mass of leaves, and the old ones as well as the old crowns should be cut out, giving all the space to the young offsets. Even these should be freely thinned out so that they stand well apart.

This will enable the plants to be surrounded with fine rich soil and sand and induce a mass of roots to emit from the base of each. The young plants by having plenty of room will improve greatly in strength and the foliage in texture, and in about a month will be found grand material when divided to form single specimens, and transplanting may be done under the most favourable conditions.

Yet another plan of raising young stock, and I think the best of all, is to strike the cuttings in the autumn. Like the Strawberry, the Violet is continually during the growing season forming runners or offsets, and these, unless removed quickly, rot the parent plant. In removing them from the Violets a few plants might be reserved with advantage and allowed to form runners, which could either be taken off when sufficiently strong and pricked out in nursery beds in a shady spot or allowed to root in the ground and then be severed.

These would be well rooted before winter, and no better plants could be obtained for early planting. By this we mean that it can be done with safety at the end of March, before the spring-rooted stock would be ready. This method of propagating Violets incurs the least possible trouble, and has advantages, to our thinking, over any other. With double varieties we advise striking cuttings in frames in autumn, so that winter protection can be given, and the same may be said too about single ones when the district is a cold one. Those, however, who have not autumn stock to work upon have yet time to get the plants well rooted, and we would rather plant out well-rooted plants somewhat later than material not suited for the purpose several weeks earlier.

RICHARD PARKER.

(To be continued.)

EDITORS' TABLE.

GARDENIA FORTUNEI FLOWERS.

Mr. Fleming sends from Wexham Park Gardens, Slough, a few flowers of *G. Fortunei*. "It is an old kind which one seldom sees grown well. It is considered a shy bloomer by many, but young plants we find bloom very freely."

Superb flowers of this beautiful *Gardenia*. We have seldom seen flowers so large and in all ways showing that the plants must have been thoroughly well grown. Nothing but excellent culture would give such results.

From Mr. Arthur Goodwin, Kidderminster, come well-bloomed sprays of the South African shrub

POLYGALA DALMAISIANA

with these words: "It blooms with us nearly all the year round, but is not at its best. It lasts a very long time when cut. The leaves closely resemble those of a Myrtle." The blooms are borne in three or more branched terminal clusters; they are of a bright magenta colour, and consist of two widespread wings and a keel. The wings are prettily veined at the back and have a green spot at each apex. The whitish keel has a deep purple point and a further decoration of a whitish brush.

From Mr. P. D. Williams in Cornwall come superb blooms of deep yellow-coloured

BUNCH PRIMROSES AND EXCELLENT GOLD-LACED POLYANTHUS

and other dark kinds, showing capital strains of these delightful spring flowers.

NOTES OF THE WEEK.

FORTHCOMING EVENTS.

April 14.—Committee meeting of the United Horticultural Benefit Society.

April 15.—Cornwall Daffodil Show (two days).

April 16.—East Anglian Daffodil Show at Ipswich. Ancient Society of York Florists' Exhibition.

April 17.—Meeting of the Linnean Society.

April 19.—Meeting of the German Horticultural Society of London.

April 22.—Royal Horticultural Society's committees meet, and National Auricula Society's Show, both at Drill Hall, Buckingham Gate.

April 23.—Royal Horticultural Society's examination in horticulture.

April 24 and 25.—Annual exhibition of the Midland Daffodil Society.

April 25.—Darlington Spring Show.

Gardeners' Royal Benevolent Institution.—The successful smoking concert reported in these columns recently, and held at the City Hall, Liverpool, in aid of the funds of the above institution, has resulted financially (to the credit of the local committee) in a cheque for forty guineas, which has been forwarded to Mr. Veitch, leaving a balance in hand of £2 11s. The income, £49 4s., was made up as follows: One life member, £10 10s.; six annual ditto, £6 6s.; donations (Mr. Thos. Davies), £5; Messrs. Thos. Davies and Co., £2 2s.; Mr. K. Glazebrook, £1 1s.; smaller sums, 7s. 6d.; 464 concert tickets, £23 4s.; and programmes, 13s. 6d. At the last meeting it was decided to continue the movement by forming an auxiliary in Liverpool, and for that purpose the committee has been enlarged and strengthened by adding the names of many leading gardeners, nurserymen, &c., in the locality. The secretary, Mr. R. G. Waterman, of Woolton, was instructed to call a meeting in October to consider what action shall be taken to carry out the proposed movement.

Notes from Baden-Baden.—*Tulipa kaufmanniana pulcherrima* has been showing its flowers to great advantage, the body colour of these being a brilliant glistening deep yellow. The petals outside are scarlet with a yellow rim, and are painted on the inside with bright scarlet streaks. It is, no doubt, the largest flowered species in the whole genus, for when fully opened in bright sunshine the blooms are fully 23 centimetres, or 9 inches, across. Continued selective sowings have produced some very handsome varieties among *Anemona blanda* and *Muscari szovitsianum*. *Fritillaria tiansasia* (Heldr.) is an interesting new species. Although it may not be of the highest beauty, yet its chocolate-black flowers and ample foliage stamp it as something distinct and handsome.—MAX LEICHTLIN, *Baden-Baden*.

Coronation tree planting.—The general desire to commemorate the present Coronation year by the planting of memorial trees seems to be both natural and good. But it is rather absurd to assume that such a national ceremonial can only be properly commemorated by planting on the Coronation day, surely the worst time almost of the whole year for so doing. Would not a tree planted in the autumn just as readily commemorate the Coronation year as if planted in June? And most certainly there would be some prospect that trees then planted would live and thrive. How many memorial trees planted in the summer have come to their death speedily, and have had to be replaced by others that were then not commemorative trees at all. It will be far wiser to advise that all Coronation commemorative trees be planted in October, and if of proper kinds and in proper situations, the more the better, rather than to severely limit such planting and with every prospect of later failure by advising that it be done on Coronation day.—A. D.

Notes from North Wales.—Our Crocuses in the grass have been very good this year, larger than I have ever seen them. Also the *Iris reticulata* have quite surpassed themselves, many patches of hardly a square foot in extent having

over a hundred blooms out at the same time. They were also very fine, but a fortnight or three weeks later than usual. We have had *Iris stylosa* for four years and it has never bloomed till this year. As I thought it not quite hardy I had it in a rather sheltered position. Last year, being out of patience with it, I took it up bodily, without disturbing the roots much, and put it into a fully exposed position. At the end of February, in a hard frost, I found it trying to flower, and put a broken bell-glass over it, and during March we had many beautiful blooms. Its parent plant in Devonshire has delicate pale mauve flowers. I suppose different soil makes a variation in the colour; ours are much richer in colour, and from one side of the clump we have several pure white flowers. *Iris alata* flowered well with us the first year and then began to dwindle away. I have tried it in different positions, and this year put a glass over it. It has grown well, but has not flowered. I shall not yet give up hope. Our rockery is now a thing of beauty, though it is the most unorthodox sort of rock garden, being made on a dry bank facing south, with trees and shrubs growing on the top, and taking all goodness from the soil. Yet at this time of the year no other part of the garden can compare with it: it is a mass of bloom, and full of interesting things to come. Among the plants now in bloom in the rockery are *Aubrietias*, improving by selection every year, and this year very rich in colour, many being dark reddish purple, and the flowers very large. Masses of *Arabis alpina*, clumps of the Pasque Anemone, which likes the crumbling limestone rock, and lives much longer here than the five years which I am told is its usual length of life; *Erica carnea*, which has been in bloom for weeks, and real old-fashioned Lent Lilies, coming up and blooming between the stones without any attention; *Golden Valerian*, contrasting specially well with the dark purple *Aubrietia*; *Anemone coronaria* of several colours, not so large as in the richer soil of the border, but holding their own and appearing and blooming year after year; *Lithospermum prostratum*, and *Myosotis dissitiflora*; double *Fuzea*, which will soon be a mass of deliciously scented blossoms; and *Polygala Chamæbuxus*, so covered with its yellow and white flowers that its leaves are hardly to be seen. This dry bank was at first our despair. Now it is our greatest pleasure, and in a week or two I will write again about it, as I think it should encourage those who have such unlikely spots in their gardens to try and make them equally attractive.—E. J. LLOYD EDWARDS.

Olives in North Cornwall.—Mr. Athestan Riley writes: "I am interested in Olives, as finding that they easily endure the winter in North Cornwall, I am experimenting with both grafted trees and trees grown on their own roots, on the wall, and also as standards."

German Irises forced.—It was indeed a pleasant floral surprise to see recently (March 29) this charming old favourite in flower in the garden attached to Eyot Villa, Chiswick, the residence of John I. Thornycroft, Esq. It may be remembered that Mr. F. Mears, the gardener here, sent a plant in flower to the Royal Horticultural Society's meeting on February 25, 1901. Some two dozen plants have been flowered this season, the purplish blue standards and purple falls being quite as highly coloured as those grown outdoors, and forming an attractive floral feature in the house. It may prove of practical interest and benefit to growers to briefly put on record Mr. Mears' system of culture. The plants to be forced are taken up from the herbaceous border or reserve garden in January or February, selecting the strongest and best ripened pieces which have been well exposed to the sun. Several pieces are put into each pot with the usual drainage, and water is withheld for a day or two after potting. They are then placed in a temperature of 45° for several days, and then the temperature is raised to 60°. The plants are kept close to the glass, well syringed, and water is given at the roots when the flower spikes begin to appear. Treated in this way they are found most useful for cutting, the flowers lasting for several days in water.—(Quo.)

Spring in a Cumberland garden.—

The snow lies thick on the high Fells; even lower heights have powdered heads, yet the promise of spring is in the air this March morning. Let us take a turn round the small garden lying high in a district of which most people say, "But it is always raining there, is it not?" A mass of green Hellebore from the Rhone Valley grouped round an ancient stone Piscina attracts us first. How pretty pale green flowers are in spring, and how fat and healthy are the rosettes of *Campanula thyrsoides* pricked out in the same stony border. Already we seem to see the wide heads of sulphur-yellow bells to come in May. The hedge opposite is lined with tufts of Daffodil leaves and Snowdrops now past their best. It is curious that while the single ones refuse to live here the double grow and multiply like weeds. The yellow bells of the *Forsythia* come next—trained round a large window they frame it in gold. Christmas Roses are over, and must have their seed vessels picked off, but the purple Lent Roses are in full beauty. It is many years since a kind unknown friend sent me through THE GARDEN the pinch of seed from which these plants were raised. From a similar source came *Rosa arvensis* and the Irish Rose, which make thickets in wild corners of the garden. *Fritillarias* are coming up strongly, and many large clumps of Daffodils, Horsfield, Emperor, and Empress are full of buds. Here is the Shadblow ready to blossom with the next warm wind, and *Prunus pissardi*, always generous with flowers, but only once ripening two brown plums, which the robins ate directly. The garden contains many varieties of Japanese Maples, at present only showing pink points along their bare branches, but in May it is a pleasure to sun oneself in the golden glory of a wide-spreading one with exquisite little fan-shaped leaves of brilliant yellow-green. Why do we so seldom see these lovely shrubs? They must be hardy, the two oldest in my collection having withstood a temperature of zero without losing a twig, and they were too tall for the snow to protect them. Yet people go on planting Privet and Portugal Laurels, and the word *experiment* frightens them. What is a garden without experiment? Even if they fail we shall have protected the hope of success.—M. P. F.

Protecting Asparagus growths.—

The earlier we get Asparagus the more welcome it appears, and I have often noticed that the plant starts freely after a few days of warm sunny weather, and is then retarded for days by a sharp frost, which kills or checks the growths of the young shoots just pushing through the soil. For several seasons we have given the plants light protection. Thatched hurdles placed on bricks, pots, or boards are very suitable, as they are readily placed in position night and morning. Another excellent protection is dry Bracken, but the latter must be cut in the early autumn when green and then dried as it is very brittle if cut in a dried state. Dry straw litter may also be used, but both the last-named must be removed during bright sunshine and replaced at night, as the sun's warmth must have free access to the beds during the day time. Wet materials should not be employed for protecting, and if litter or Bracken is used it may be placed in large heaps when not in use, in the alleys, and even when not required as a protection I have found the litter or Bracken valuable later on for newly-planted beds to prevent them getting much dried.—A. C. N.

Globe Artichokes and frost.—I have never seen the Globe Artichoke so badly injured as this year since the severe weather we had in February, 1895, when we lost all our roots, and almost the same thing occurs now, as few have survived. The Globe Artichoke always suffers more when the frost is severe, say, some weeks after the New Year than if it came before Christmas. This of course is readily explained, as, owing to a mild winter, the new growth is fairly active and is more susceptible to injury. For years I have detached suckers or side shoots late in the autumn and placed them in frames, but unfortunately these were injured, as some 26° of frost reached them. To secure entirely new stock is not easy, unless one knows the giver, as there are some poor

varieties, most of which are the stronger growers and look tempting when planted, but later on are often poor thin spiny things not worth the ground they occupy. Seeds cannot be trusted, as only a small percentage of the seedlings are worth keeping; they may be good as Cardoons merely for the leaf stalk, but the heads are worthless. A thick fleshy head is needed. I prefer the purple to the green variety.—G. W.

Auriculas as town plants.—In a little front garden abutting on the busy thoroughfare of the Richmond Road, Kingston-on-Thames, is a fine bed of hardy border Auriculas, of which the owner, a carpenter, is very proud. The plants have been very green and fresh looking for some time, and now are thus comparatively early opening their flowers rapidly. The aspect is west, and the roadway, north and south, is often a very cold one. Still, in spite of cold, of fog, and of dust, the plants do well. There is, however, a pathetic cast of doom hanging over this pretty bed, because shortly, perhaps before another spring comes round, the road will have to be widened to make room for the demon tramcar, and when that is so away will go the little front garden. But the lesson the bed teaches is that border Auriculas are capital town plants, and once raised will endure for many years. They should be mulched with short manure in the summer, and occasionally well watered. Also once in three years be lifted, have the soil renewed, then replanted.—A. D.

The assumed Apple and Pear hybrid.—Whilst the illustration given of this curiously-formed Apple on page 230 shows that it is of a fairly prolific character, none of your readers other than members of the Royal Horticultural Society's fruit committee probably have tasted the fruits. The general impression made on that body evidently was that it was not a hybrid at all, but was merely an ordinary Apple of odd shape, inasmuch as the stem base had elongated, as is partially seen in the Old Lemon Pippin, but was in this case more marked. Even in some Lemon Pippins this base of fleshy elongation is more marked than in others. The fruits were quite flavourless, and had no edible value. There was not in them the least Pear flavour. It was said that the leafage resembled that of the Pear, but leafage in ordinary Apples differs materially. Certainly it would have been interesting to learn what varieties were the Apple and Pear parents, assuming it had such. If it were a real hybrid then evidently the less experiment is made in such direction the better.—A. D.

Liverpool Botanic Gardens.—In a recent issue mention was made of the *Amaryllis* at Sefton Park, with an intimation that those cultivated at the Botanic Gardens were somewhat later, so that they might show to advantage at the Easter holidays. Mr. Gutteridge, the curator, is superintending the gardens in an able manner, and a large number of citizens visit the houses daily, the chief attraction being the *Amaryllis*, which are staged in the form of a sloping bank some 10 feet long with a path down the centre; the pots, numbering 300, carry from three to ten blooms each, varying from nearly pure white to brilliant scarlet and crimson. The bulbs are chiefly three years old, the seed being saved by the raiser, who has about 2,000 bulbs, so that the season will last for some weeks. Amongst a large number of seedlings it cannot be expected that all will be of the highest class, but a good percentage are of good form and substance. These will be marked for future information, and the smaller kinds will be forced early next season and then probably be discarded. The Parks and Gardens Committee have acted very wisely in allowing Mr. Herbert, the superintendent of the Liverpool parks, to cultivate in quantity the more important of our flowering plants, and this has never been more clearly shown than the collections now on view. Bulbs, Cinerarias, Orchids, and forced plants are also adding to the attractions of the gardens.

Caterpillars and Pæonies.—Caterpillars attack the roots of Pæonies in certain soils. When my grounds were at Tooting it was necessary about once in three years to lift the plants, pick out the grubs, wash the roots, and make a fresh propagation; then all went on well for another

three years. On removing to Long Ditton, as long as I was connected with my sons I do not recollect any single instance connected with this pest, and my theory is that being in the Valley of the Wandle the ground was wet in winter, and more or less dry in summer, water never at any time being far from the surface, whereas at Long Ditton we suffered from want of moisture, but the Pæonies were always a great sight. The single species made great bushes covered with flowers. The single varieties of albiflora grew luxuriantly, and the double varieties of albiflora were always a sight worth seeing, but they wanted plenty of manure. I have been led to make the above remarks, as I see the scientific committee of the Royal Horticultural Society had the subject of caterpillars in Pæony roots before them on February 11, and I thought my experience might be of some use. I was advised by the scientific committee to watch and catch the swift moth, but I never could manage to put salt on its tail, and took to the other plan of destroying the insect and propagating stock at the same time.—PETER BARR, V.M.H., Cape Town, South Africa.

THE FRUIT GARDEN.**THE SUMMER PINCHING OF FRUIT TREES.**

THIS is a comparatively recent gardening operation, the practice of which has vastly increased during the last few years, owing to the extended planting of dwarf trees. Still, there is as great a divergence of opinion upon this matter as upon other pruning questions, while it is doubtful if many amateurs really understand the principles underlying it. The operation is physically a very easy and pleasant one, and can be done in some of the most genial weather of the year, or, if more convenient, when the weather is too wet to permit of doing much else. To conduct it to the best advantage needs a knowledge of the principles upon which the practice is based, for if it is merely done by rule of thumb mistakes will be made and the bearing of trees perhaps ruined.

Everyone knows that if a tree grows too strongly the buds will next season produce further strong shoots instead of blossom. It is also a fact that the branches of dwarf trees, being nearer to the roots, tend to make a stronger growth of wood than do the branches of trees which are on a tall stem through which the sap has to rise. Hence the use of dwarfing stocks, which do much to counteract this tendency, by making a network of fibrous roots near the surface—fruit-producing roots; instead of free stocks, which send vertical roots down into the soil—wood-producing roots. Yet, notwithstanding the use of dwarfing stocks, dwarf trees if left to themselves tend to make a deal too much wood till a heavy crop of fruit has taken some of the rampant nature out of them. Of course all trees, even of the same fruit, cannot be treated alike, as it would be folly to check the growth of the Winter Nelis Pear, for instance, in the same way as you would that of Beurré Hardy, or Coe's Golden Drop Plum in the same way as the Oullin's Golden Gage. In this respect, as in all matters of pruning, much must always be left to the judgment of the grower.

It is a recognised scientific fact that the strength of a shoot is proportionate to the amount of leaves upon it and the length of time during which such leaves remain upon it; and, furthermore, that if a shoot enjoys the use of these leaves all the summer and autumn, and is then shortened back to four or five buds, the shoots resulting from two or three of those buds will be much stronger than the shoots would have been from the buds higher up if the shortening had not been effected. Hence it is seen that by pinching shoots in the summer such shoots are deprived of some of their strength, while by being cut back in the winter they are not left as they were but strengthened still further. This is the simple principle underlying the whole practice of

summer pinching, and all experience gained in the practice of the operation is founded upon it.

To the would-be successful fruit grower this knowledge is indispensable, enabling him as it does to strengthen the trees or the parts of the trees he wants to strengthen and to weaken the trees or the parts of the trees he wants to weaken. It is a commonly observed fact that branches which run up vertically, or nearly so, produce much stronger shoots than those which run horizontally, the terminal shoots from a branch for a similar reason being stronger than the lateral ones. This is owing to the check to the flow of the sap which the horizontal branch offers even when growing in that position naturally, and this difference is much increased when a branch is made to grow in a horizontal position by training. For this reason care is necessary in the growing of fan-trained trees of wall Plums, for instance, that too much of the strength of the tree does not go into the central branches, and especially into the tops of the branches, for if it does the lower branches will suffer in strength, one of the first things to be borne in mind in training trees being a well-balanced growth. Carelessly managed trees are often seen where there is one very strong central branch producing shoots 3 feet long in a season, whilst all the other branches are weak, the weakest being those at the bottom. This, of course, can never be altered when once a tree has been allowed to get into that state, but the ill-effects of it can be mitigated somewhat by leaving the shoots on the lower branches their full length till the late summer or autumn, while those on the central branch are kept well pinched in. Peach and Nectarine trees are especially liable to develop in this way, as it is the young wood which bears, and, consequently, so much pinching cannot be practised as in the case of spur bearers. Still, much may be done in their case by stopping all rank-growing shoots before they run away with the strength of the tree. With cordon Apples and Pears there is a constant tendency for the strength of the tree to go into the upper shoots, whilst the lower part of the tree gets weak, and this can be partly obviated by letting only one shoot at the top of the tree run its length, and even this should be stopped once during the summer if it is getting too rampant, while some of the shoots near the base should be left their full length all the summer. The pinching of the top shoots will send more sap down into the lower ones, while at the same time the amount of foliage near the base will give strength to that part of the tree. For a similar reason the spurs on the lowest branches of wall trees, especially Pears and Plums, should always be left a little longer than those on the upper ones, so that more sap may be diverted to the lower branches, and their tendency to get weak may be counteracted.

The practice usually recommended for bush and pyramid trees is to keep all side shoots not required for the extension of the tree pinched in to form spurs, and to leave the terminal shoots to grow their full length unless they are unduly strong, when they are recommended to be pinched back after they have grown a foot or more. The reasonableness of this in general practice will be obvious from the above remarks. If the side shoots were allowed to grow their full length and shortened in the winter they would gather so much strength that the buds at the base would tend to produce shoots next year instead of blossom, while by weakening them two or three buds at the base would produce blossom, the two terminal buds, possibly only one, producing shoots to be similarly formed into spurs. If, however, the terminal or natural extension shoots were pinched back in the same way—that is, to four or five leaves—the buds at the base, instead of making good shoots next season, which under proper treatment would be formed into fruit spurs in due course, would push forth shoots the same season, which would not be ripened, and would, therefore, be of little or no use. The pinching of all the shoots, too, might cause such a shock to the tree and such a check to root action that it would become unhealthy owing to congestion of sap, for which there was no immediate outlet, while it might cause the lower buds

on the future spurs to push forth shoots the same season instead of reserving themselves for blossom next season. Even with the side shoots it is not advisable to do the whole of the pinching at once, as it gives a shock to the tree which may give rise to various disorders, sometimes causing a splitting of the bark, which provides a home for canker and woolly aphids and other undesirables.

ALGER PETTS.

THE STRAWBERRY.

(Continued from page 226.)

ALL ground should, of course, be periodically trenched, but, so far as its preparation for the Strawberry is concerned, it is not essential; a deep digging is sufficient. This may be done in early July, and as the digging proceeds a layer of manure should be placed in the bottom of each trench. If the land be somewhat light it will be doubly valuable, but in any case it is a practice strongly to be recommended. If possible, light land should be avoided, as the Strawberry dislikes any condition approaching drought, and light land during the summer is liable to become both dry and hot. The roots of the Strawberry plant are fibrous and somewhat delicate, and therefore easily injuriously affected by unfavourable conditions.

SITUATION.

Sunlight is an all-important factor in producing good Strawberries. Choose for the plantation a piece of ground that is fully exposed to the sun. Fruits grown upon land that is shaded lack size, colour, and flavour, and this is primarily due to the fact that the plants are wanting in vigour. While the choice of an open, sunny situation is very desirable for the principal plantation of Strawberries, it is important to many growers to have a succession of fruits, and, to enable them to provide these, a variety of aspects is necessary. For instance, a warm south border at the foot of a wall is of great assistance and value in producing an early crop of fruits, while a border facing north and screened from the sun is equally valuable in retarding the plants, and so enabling one to gather fruits late in the season. From the south border fruits may be had in a favourable season, providing the proper varieties are planted, by the first week in June, and on the north border they can be gathered for several weeks after the supply from the general plantation has ceased.

PLANTING.

One of the greatest aids to successful Strawberry culture is early planting. Without this the fruits produced the following season, which ought to be the best the plant is capable of bearing, will certainly be disappointing. By planting early—and the same remark holds good with the planting of all fruit trees—the roots are able to well establish themselves in the soil before the cold and generally unfavourable weather of winter sets in. During such weather it is, of course, impossible for them to make any progress, and, unless they have been able to do so while late summer and autumn were yet present, it is probable that many plants will be lost or considerably damaged before spring. When planted early they are able to take full advantage of the encouraging influence of spring and start the season well. They are satisfactorily established in the ground and able to make headway at once when the conditions are favourable. Plants that are not planted until late are not in a position to do this, because they are not properly established, and some portion of early spring is lost before a vigorous start can be made. The consequence is that the flowers and fruit are produced before the plant has fully developed. August is the best month in which to plant the Strawberry, and to do this it is necessary to prepare the young plants, or runners as they are technically termed, as early as possible, but this will be treated more fully in dealing with the propagation. For the moment we will presume that the plants are quite ready to be permanently planted out in the month of August upon land that has been properly prepared in the manner already advised.

There is a considerable difference between the vigour of growth of certain varieties of Strawberries and in regulating the distances between the plants when the plantation is made, this circumstance must be taken into consideration. Obviously the stronger-growing sorts must be placed wider apart than those of less vigorous growth. Strong and moderately strong-growing varieties should be planted in rows 2 feet apart, and they must be not less than 12 inches distant from each other in the row. The plants are not placed directly opposite to each other in every row, but are alternated. By adopting this method of planting overcrowding is not so likely to result as if the plants were exactly opposite in every row. For the smaller and less vigorous-growing sorts a distance between the rows of 18 inches or 20 inches would suffice, and the plants in the rows might be placed 10 inches apart. There are few more important items in the culture of the Strawberry plant than that of planting. Whether this work is carefully or carelessly done may mean just the difference between success and failure, and the careful method takes little, if any, more time than does the careless one. In the first place it is well to take the weather into consideration; a dull day is far preferable to a bright one. This may, however, be somewhat difficult to experience in the month of August; one might have to wait long before a dull day happened to occur. To wait too long would not be advisable, for planting ought not to be delayed beyond the middle of the month of August. If a dull day is not available or likely to be, plant the Strawberry plants in the afternoon when the sun-heat is waning. It is most important that the roots be not exposed to the sun or air, for they are then liable to be dried and shrivelled up or even destroyed altogether. Do not, therefore, leave the plants lying about uncovered.

A. P. H.

(To be continued.)

NOTES ON HARDY PLANTS

ANEMONE INTERMEDIA.

UNDER this name our good friend Max Leichtlin, of Baden-Baden, sent out in 1900 a Wood Anemone which has flowered here for the second time, but which I am now satisfied is distinct from *A. ranunculoides pallida*, a pretty pale yellow Wood Anemone, which will be very attractive in a day or two. The "Index Kewensis" names three *Anemones intermedia*, one being there referred to as *memorosa*, and the others to *montana* and *Pulsatilla*. The one received from Baden-Baden is neither of the two last-named, and must, therefore, be *A. memorosa*, if it be referable to that species at all. There has for a long time been an occasional reference to a yellow variety of *A. memorosa*, and I have made enquiries in various quarters as to where it could be had, but without success. It is possible, therefore, that this is the plant I have been in search of for years. The leaves are like those of our common Wood Anemone. They are also of the same shade of green, and are without the deep chocolate-brown which tinges the leaves of *A. ranunculoides* when they first appear. The flowers are smaller than those of our native Wood Anemone, and they are of a clear yellow, which one would say comes intermediate in hue between the pale yellow of *A. r. pallida* and the brighter shade of the typical *A. ranunculoides*. *A. intermedia* blooms before either *A. ranunculoides* or the white forms of the pretty *A. memorosa*, our native plant. It flowered here about the beginning of the third week of March in a half-shaded position in light, sandy peat soil.

S. ARNOTT.

SAXIFRAGA BOYDI.

MR. JAMES BOYD'S Saxifrage is well known to those who are interested in these pretty Rockfoils, but one finds that there are a good many hardy plant growers who do not possess this gem among

the many exquisite plants in this genus. It seems difficult to grow and retain in some southern gardens, and its price seems in consequence to be high for a flower of its kind which has been in cultivation for a good number of years. I was asked by a very competent grower of the genus in the course of last year if it did well in Scotland, as it was not a free grower in the south. I do not think it can at any time be considered a Saxifrage which can be planted and left alone, and one of its principal requirements is assuredly that of top-dressing.

Some would confine this important operation among alpine to spring and autumn, but with *S. Boydi* I should do it more frequently; indeed, as often as it seemed to be showing any signs of becoming bare towards the base. It probably owes this character to *S. burseriana*, one of its reputed parents. Occasional propagation is also desirable in many soils.

S. Boydi has at present just come into bloom here, and one would be difficult to please if they could not admire its neat habit and pretty bright yellow flowers. The white *S. B. alba* is of a different character and is easier to grow, although it, too, should be top-dressed occasionally. I once possessed a small piece of a straw-coloured variety of *S. Boydi*, but, unfortunately, lost it one season when laid aside by illness. I do not think, however, that either the white or the straw-coloured form can compare in beauty with the type itself.

S. ARNOTT.

Carsethorn, by Dumfries, N.B.

NARCISSUS VICTORIA.

I do not think that *N. Victoria* is going to supersede *Empress* and *Horsfieldi* for cultivation in the open border. I like the shape of the perianth, but its colour in the open is a dingy white and lacks the purity of the two older varieties. In freedom of growth it is all that could be desired. A bulb given to me in the autumn of 1899 produced two flowers the first season, and last year it had grown into quite a clump, with six fine blooms.

NARCISSUS WEARDALE PERFECTION.

WHAT a glorious flower *N. Weardale Perfection* is! For a day or two after it opens it is not altogether attractive, but, unlike many *Narcissi*, it improves day by day and becomes a perfectly refined flower, both in form and colour. In this condition it continues almost to the time when the fabric of the flower collapses. So many *Daffodils* lose their colour or form soon after opening. The colour of *Glory of Leyden* becomes streaky and dull in a day or two, and the form of *Mme. Plémp* soon becomes coarse and vulgar.

FRITILLARIA MELEAGRIS.

SEVERAL years ago I planted some roots of *Fritillaria Meleagris*, both varieties, in a small shrubbery, and right under the branches of a deciduous tree. This was not done as an experiment, but simply to get the roots out of the way. I now have a fine clump, a mass of flowers every season, apparently quite happy with the *Primroses*, *Anemones* of various kinds, &c. *Fritillaria contorta* within a yard is also doing well. I always thought the *Fritillaria* was a meadow plant.

JAY AYE.

ERYTHRONIUMS.

THE Dog's-tooth Violets (*Erythroniums*) form a delightful family of bulbous plants, flowering in early spring, and may be planted in the lower parts of the rock garden, at the margin of shrub groups, or even naturalised in grass. They enjoy a light soil composed chiefly of leaf-mould, moisture without stagnation, and partial shade. *E.*



ERYTHRONIUMS IN THE ROCK GARDEN. (From a photograph by Miss Willmott.)

Dens-canis is the best known species, and there are many beautiful varieties—white, rose, and other colours, none poor, and this Dog's-tooth Violet is as easy to manage as any. It is never prettier than when planted at the edge of a bed filled with American plants, such as hardy *Azaleas* and the like. Besides this species and its varieties there are many other beautiful *Erythroniums*, chiefly from the north-west of America. *E. americanum* is a graceful species with a delicately coloured yellow flower and mottled leaves, as in *E. Dens-canis*; indeed, the leaf-colouring of this pretty race is as distinct as are the subtle hues of the flowers. *E. giganteum*, *E. Johnstoni*, *E. grandiflorum*, *E. revolutum*, *E. Hartwegii*, *E. Howellii*, and *E. montanum* are all worth a place in the garden. The way to increase *Erythroniums* is by bulb offsets, also by seed, but from four to five years elapse before seedlings bloom. When planting cover the bulbs with sand, as anything approaching stagnation is fatal to success. The genus was fully described in *THE GARDEN*, December 7, 1901.

THE INDOOR GARDEN.

SPARMANNIA AFRICANA.

WHEN well grown and flowered this South African shrub is one of the prettiest of spring flowering greenhouse plants, though if not properly managed flowers are scarce, and the room it occupies would be better occupied by some other plant. It is one of the few subjects that is not benefited by being planted out; in fact, the more generous the treatment the ranker is the growth and the fewer the flowers. In the Temperate house at Kew a couple of specimens are now flowering grandly, and a few words as to the system of culture adopted may not be out of place. The plants are standards, the stems being 4 feet to 5 feet in height; the heads are globular and 4 feet in diameter. They are growing in small tubs, consequently the root room is very much restricted. This has resulted in short, sturdy, somewhat stunted wood, every shoot of which is carrying one or more heads of blossoms. A compost of loam and leaf-mould is used and some half-inch bones are placed on top of the

drainage. After flowering the branches are well cut back and the plants are kept fairly close until growth recommences, after which they are placed in a sunny, airy house without fire-heat, in which place they remain until flowers appear again. In borders in the Temperate house plants may be seen growing which make luxuriant growth and large leaves, but rarely flower; this gives a striking illustration of the results obtained from the two methods of culture.

In most gardens it is a well-known plant, having been in cultivation for upwards of a century, and its large, cordate, hairy leaves and umbels of white flowers, with tufts of yellow, purple-tipped stamens are known to most gardeners. It may be easily rooted from cuttings and flowered in a small state in pots.

W. DALLIMORE.

SHRUBBY SPIREAS FOR FORCING.

FOR some years now we have been accustomed to force *Spirea confusa* or *media* for the greenhouse early in the year, and very pretty it is under such conditions, the slender wiry shoots, glaucous green leaves, and flattened clusters of white flowers, plentifully produced, forming a pleasing feature. Though one of the best it is by no means the only species suitable for this treatment, as *Spirea Van Houttei*, a hybrid between *S. media* and *S. trilobata*, is as good: indeed, during a recent visit to Kew I noted several examples of it in No. 4 greenhouse. This *Spirea* (*Van Houttei*) is one of the most beautiful of all the outdoor *Spireas*, but it too often falls a victim to spring frosts to attain a high position here, though in the United States of America it is regarded as one of the finest members of the genus.

S. prunifolia flore-pleno flowers naturally early in the season, hence it may be readily forced. It is, however, of large growth, and is only effective in the shape of a fair sized bush, but in that state is delightful, the long slender arching shoots being studded for a considerable portion of their length with rounded clusters of pretty rosette-like blossoms, which are of the purest white, and in direct contrast to the dark coloured bark. As there is only one other double-flowered *Spirea* of the shrubby section (*S. reevesiana flore-pleno*), the species under notice attracts attention from that circumstance alone. As a shrub in the open ground, *S. prunifolia flore-pleno* is delightful when

wreathed with flowers in the spring, while the leaves in autumn die off brightly tinted with scarlet. Within the last three or four years *S. arguta* has made great headway in popular favour as an outdoor shrub, and it is also equally valuable for flowering under glass. It forms a freely branched bush from 3 feet to 4 feet high, while the thin wiry twigs of the preceding year's growth on which the blossoms are borne are gracefully arched. The flowers themselves are pure white, and arranged in flattened clusters. The roots are of a free and tufted nature, hence the plants can be lifted and potted with but little check. *S. arguta* is of hybrid origin, the parents being *S. multiflora* and *S. Thunbergi*. All the *Spiræas* enumerated above can be obtained cheap from most nurseries. H. P.

THE FERTILISATION OF THE PERSIAN CYCLAMEN.

MR. C. MURRELL, gardener to Colonel Rogers, Franklands, Burgess Hill, Sussex, who exhibited the splendid examples of *Cyclamen persicum* at the meeting of the Royal Horticultural Society on March 11, is a raiser of seedling *Cyclamens*, and as he finds a tendency on the part of the *Cyclamen* to deteriorate in quality, he therefore seeks to maintain a high character and improve it by means of artificial fertilisation. Mr. Murrell says the best time to fertilise the blossoms is as early in March as possible, but it may be done as late as April, although he considers the later it is done after the first week in March the less chance is there of obtaining the wished-for result, as insects at that season of the year are prone to interfere with the work of the fertiliser and spoil it. Advantage should be taken of a bright sunshiny time in which to artificially fertilise. In the following directions Mr. Murrell sets forth his method of procedure:—"Having selected a plant as the pollen parent—and it should have well shaped flowers and be desirable in colour—take hold of the stalk between the left forefinger and thumb, just below the flower, and with the thumb of the right hand strike the side of it, and the act will cause the pollen to become deposited on the left thumb-nail; then apply this pollen by means of a fine and dry camel's-hair brush to the blooms of a plant of good habit and stiff, well-marked foliage, which should in all cases be indispensable characteristics of a seed-bearing plant. In per-

forming these operations some care is required, as the organs of fecundation are extremely delicate, and should not be subjected to any rough usage. The pollen should be gently applied to the stigma, and it will be found that a small portion has adhered to it, which is all that is required. Not more than six flowers on a large plant should be allowed to seed, for if a greater number be retained there is a danger of the seed grains being small, and they will therefore be lacking that vigour which is at all times so important in seedlings. After fertilising the six best blooms all others should be at once removed and the plants put by in a shady part of the greenhouse, but being allowed as much light as possible, and no place can be better than a shelf protected from hot sunshine by means of a screen, which can be made of woodwork placed about a foot or 18 inches from the glass. The seeds ripen in about ten weeks, and they can be sown at once. There is keen enjoyment in raising seedlings, the peculiar delight of which is known only to the enthusiastic and painstaking florist."

The ample vigorous foliage seen on the plants shown by Mr. Murrell at the meeting of the Royal Horticultural Society on March 11, and the size and substance of the blossoms bore testimony to the care with which he selects his seed parents. It was said that the corms which had produced such splendid plants were four and five years old, and it is evident Mr. Murrell induces them to break into growth in the most satisfactory manner; but he says that the best exhibition specimens come from corms which are two and three years old. At the spring exhibition of the Brighton Horticultural Society, which is held in the second week in April, Mr. Murrell is always first with *Cyclamen*; his splendid specimens are always a leading feature, and in that particular line of plant culture he may be said to fear no rival. R. D.

IN THE GARDEN AT WISLEY.

THE accompanying illustration shows one of the many delightful spots in the garden of the late Mr. G. F. Wilson at Wisley. The group is largely composed of *Lupines*, about which Mr. Wilson wrote in *THE GARDEN* of February 9, 1901, page 101. He there said: "The *Lupines* grow in a field which we took into Oakwood Garden, in which we made wide

ditches, at the side of which we grow *Iris Kæmpferi*, the field being of good soil. The soil dug out of the ditches and thrown up on banks was used for herbaceous plants. It is there that the *Lupines* grow and seed themselves about."

KEW NOTES.

THE TEMPERATE RANGE.

THE noble proportions, the genial temperature, and the pictorial effect of the unequalled collection of trees and flowering shrubs of cool climates there to be found are three causes which combine to make the Temperate Range the most delightful of all plant houses at Kew. For the information of readers living at a distance, who seldom have an opportunity of making acquaintance with the treasures of the gardens, it may be well to give a slight sketch of this splendid series of conservatories. They consist of a central block, called the Temperate house, connected by lobbies to octagonal vestibules on either side, communicating with fine north and south wings. Of these, the north wing—which is the usual point of entrance—is the Himalayan house, and was only completed in 1899. It is the coolest of the entire range, being practically unheated, for though heat can be turned on in case of too severe frost, the temperature is nevertheless allowed on occasion to drop even a degree or two below freezing point, as artificial heat is found to be more injurious to the class of plants grown herein than moderate cold. Here are to be found specimens of many of the Himalayan *Rhododendrons*, as well as some of the fine hybrids which have been raised from them, in company with *Camellias* and other flowering shrubs and plants of the higher Asiatic regions. The earliest *Rhododendron*, which has been in flower for a month past, is the well-known hardy hybrid *R. præcox*, which may also be seen in great beauty in the open air in various parts of the gardens. It is interesting to compare it with one of its parents, the Himalayan *R. ciliatum*, a fine specimen of which is now beginning to open the white, purple-tinted buds with which it is crowded. The first of the pure Sikkim species to open its blood-red flowers was *R. barbatum*, followed by *R. arboreum* and some of its numerous varieties, which are now very conspicuous. The most noteworthy species just now in bloom, however, is

R. grande, with its trusses of cream-white, bell-shaped flowers, flecked with purple at the base of the upper petals, surmounting the broad, handsome silver-lined foliage. This is the species formerly known to us as *R. argenteum*. These will be followed by many others of the same remarkable type, which can only be seen at their best under very favourable conditions of climate or circumstance.

Rhododendrons, however, are not the only inmates of the house. Several of the *Magnolias*, well in advance of those outside, are fast pushing off their hairy sheath-scales and showing their ivory-white petals. *Camellias* are in full flower. A charming Bramble (*Rubus incisus*) with paper-white flowers is climbing up one of the pillars. *Daphnes* of various kinds scent the air, and one may make acquaintance with many a rare exotic shrub of lower growth, several of which, like *Corylopsis pauciflora*, a Japanese cousin of the Witch-Hazels, and the curious yellow and white *Edgeworthia chrysantha*, are now in flower. Amongst the lesser plants on the rockwork overhanging the pools at the entrance, fine clumps of the white-flowered Himalayan *Saxifraga ciliata* are very ornamental.

Passing on through the north vestibule we cannot but pause as we enter the central section—the Temperate house proper. This is the oldest



A FLOWERY BANK AT OAKWOOD, WISLEY, THE EXPERIMENTAL GARDEN OF THE LATE MR. G. F. WILSON, F.R.S.

part of the whole building, having been completed in 1862, though practically it has been almost remodelled during recent years. Here the vegetation is mainly that of Australia and New Zealand, and the magnificent specimens of the Moreton Bay and Norfolk Island Pines (*Araucaria Bidwillii* and *A. excelsa*), *Cordylines*, Fan and Date Palms, with an undergrowth of New Zealand Ferns—*Dicksonias* and *Cyatheas*—form a picture not easily to be surpassed or forgotten. The temperature is slightly above that of the Himalayan house, standing at from 40° to 50°, and therefore quite cool. At the present time *Acacias* of many species are in flower, and form a most interesting and beautiful feature. Some of these have been blooming intermittently throughout the winter, and one very tall specimen of the Silver Wattle (*A. dealbata*) which has reached the roof has been very ornamental with its finely cut glaucous foliage and drooping yellow racemes. We can examine more at our ease the less stately species, some, like the charming *A. leprosa*, with its globular sulphur-hued powder-puffs studding its pendulous branches wreathing a pillar, others in shrub form, but all very different from each other, as, for example, *A. reticulata*, its Primrose-coloured cylinders set off by the close dark green foliage, or the graceful *A. acinacea*, with slender drooping branches spangled with flowers amongst its narrow, needle-like leaves; or again, *A. hastulata*, with long spikes of Mignonette-like flowers, clothing the upright stems. The largest bushes are planted out, but numerous smaller specimens grown in pots and quite as free-flowering, go to prove that large space is not indispensable for the culture of these beautiful and long-lasting plants. Amongst those suitable for pots may be mentioned *A. obliqua*, with minute but innumerable balls of rich deep yellow, and *A. juniperina*, a very distinct and pretty verticillate form with cylindrical heads of pale citron-coloured flowers. An occasional plant of *A. armata* and perhaps *A. Drummondii* may be found in our greenhouses; but as a rule the great variety and charm of these lovely *Acacias* is overlooked.

It is noteworthy that *A. longifolia*, a very free-flowering species, was in precisely the same stage of development in the open air in the Abbey Gardens at Tresco, Isles of Scilly, on February 26, as was the same variety under glass in the Temperate house at Kew. Folk who are fortunate enough to have their gardens in the genial climate of South Devon and Cornwall may congratulate themselves on being able to grow so many of these desirable half-hardy shrubs in sheltered spots out of doors.

Of many other Australasian plants of great merit and more or less familiar, *Correas*, *Chorizemas*, *Eriostemons*, and others may be seen in flower at present. Amongst them, but perhaps less well known, *Grevillea pucea* with bright scarlet flowers attracts notice. This and another beautiful species, *G. thelemanniana*, are well worth the attention of those who seek for unusual and dainty pot plants. The trees of the Antipodes, which are mostly evergreen, are somewhat sombre in their tone of leafage, but here this is relieved by bright coloured flowers of other lands. *Azaleas*, *Spiræas*, *Hawthorns*, *Lilacs*, *Laburnums*, *Wistarias* and the like, in pots, are all pressed into the service and help to make the Temperate house a most popular resort. A remarkable specimen of *Camellia reticulata*, covered with its large red semi-double flowers—one of the best of its kind—is a picture in itself; and in another part of the house, a double-flowered Peach of a bright carmine-pink, has been singularly beautiful for two or three weeks past. The draping of several of the pillars with *Cestrum elegans*—better known perhaps as *Habrothamnus*—is another feature of note. The conditions under which it is grown seem to suit it to perfection, and it is seldom that its bright cherry-pink clusters are seen to greater advantage than here.

The south wing, which is known as the Mexican house, is devoted to the vegetation of somewhat warmer latitudes, as its name implies, but it is not less full of interest than the other divisions of this unique range of buildings.

TREES AND SHRUBS.

CRYPTOMERIA JAPONICA.

ONE of the many fine specimens of this tree found in Japan is represented in the accompanying illustration. The beauty of the *Cryptomeria* as seen in Japan has often been described by travellers both when seen wild, forming large forests on the mountain sides, and also under cultivation, the Japanese having used it to a great extent for avenues along the sides of the public roads. One of the finest of these avenues is recorded as leading from the town of Namada to Nikko, a distance of fifty miles, every tree being a perfect specimen, quite straight, averaging from 130 feet to 150 feet in height and 12 feet to 15 feet in circumference. In this country it has proved, on the whole, a disappointing tree, fine specimens being extremely rare.

The species, or one of its numerous varieties, is said to have been first introduced into England by Fortune in 1844, who sent it from Shanghai. Although usually spoken of as a Japanese tree, it is also found widely distributed in many of the mountainous parts of China. Its nearest allies are the *Taxodiums* and *Sequoias*, though it is quite distinct from both. As previously stated, it forms in Japan an erect tree 150 feet high, with a tapering trunk and numerous branches. The branchlets are numerous and smothered with bright green angular leaves, the longest of which are barely an inch in length. The cones are roundish, little more than half an inch through, and bear but few seeds each.

The timber is light, tough and durable, red in colour, and fragrant. The wood is said to be easily worked, and is much in demand for all kinds of purposes. In the Royal Horticultural Society's report of the Conifer Conference of 1892, the best specimens in Great Britain are stated to be at Coollatten and Fota Island, the former being at that time 67 feet high, with a girth of 5 feet, and the latter 56 feet high, with a 3½ feet girth. In England the finest recorded was at Boconnoe, 64 feet high, with a 7 feet girth; in Scotland a specimen 43 feet high was recorded as growing in Riccarton, whilst another at Keir, in Perthshire, was nearly as tall, and had a girth of 9 feet 8 inches. Specimens such as these are, however, rare; in many places the tree refuses to thrive.

When planting *Cryptomerias* a sheltered situation should be given, and a moist, rich soil. Like many other favourite plants of the Japanese it has many varieties, a few of which are highly ornamental. The most noticeable of these is *elegans*, commonly called *Cryptomeria elegans*. It is quite distinct from the type, and might readily be mistaken for a distinct species. It forms a lovely tree—in places where it thrives—of pyramidal habit, densely furnished with branches, the branchlets at the extreme points being pendulous. The leaves are about the same length as those of the type, but are soft to the touch, not harsh as in the typical plant. In summer the leaves are bright green, in winter bronzy or brown with a reddish tinge. This colour is prevalent for four or five months, the green colour being reassumed

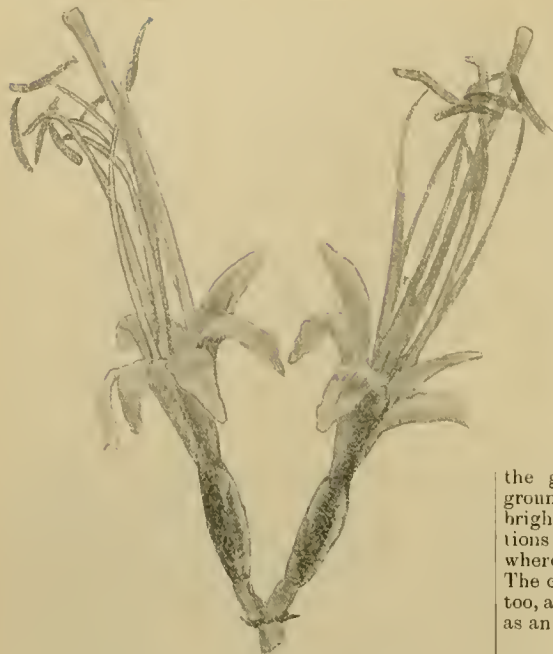


CRYPTOMERIA JAPONICA IN JAPAN.

(From a photograph sent by Messrs. Bohmer and Co., of Yokohama.)

in early spring. This fine variety was introduced in 1861 by Mr. J. G. Veitch. *Cryptomeria japonica* var. *variegata* is another ornamental plant; in this many of the branchlets are white or pale yellow. It is more tender than the others, and thrives best in a cool greenhouse.

Other varieties of more or less interest are *araucarioides*, with leaves somewhat similar to the small-leaved *Araucarias*; *elegans nana*, a dwarf compact form of *elegans*; *Lobbi*, more compact in habit than the type with less pendulous branchlets and shorter leaves, introduced by Mr. Thomas Lobb in 1853, from the Java Botanic Garden; *Lobbi nana*, a dwarf form; *pungens* and *spiralis*, the latter a



FLOWERS OF AGAVE BAKERI (NATURAL SIZE).
(The colour is pale greenish yellow.)

slender plant, with the leaves arranged round the stem in a spiral manner.

W. DALLIMORE.

SKIMMIAS.

SINCE that dull autumn day, on October 10, 1882, when Mr. Davis, of Hillsborough, County Down, surprised nearly everyone at the Horticultural Society's meeting in the old gardens at Kensington with his magnificent exhibit of seedling Pernettyas, six of which were then awarded first-class certificates, we have had nothing among new hardy berried shrubs to equal a group of *Skimmia Foremani*, an illustration of which was given recently in *THE GARDEN*, page 160. It was on December 11, 1888, that a group of this *Skimmia* was exhibited at the Drill Hall by Mr. Foreman, Eskbank Nursery, Midlothian, and though the day was cold, foggy, and in every way cheerless, these plants, with their brightly-coloured berries, formed an attractive feature. A first-class certificate was the award given to them.

Though the *Skimmias*, both original species and garden forms, are few in number, their nomenclature is in a very confused state, principally due to the way in which the names have been changed. The confusion was caused in this way: In 1845 Robert Fortune sent home from Japan that delightful little shrub with hermaphrodite blossoms which was supposed to be *Skimmia japonica* of Thunberg, and as such it was for many years, and is still, largely grown, being very popular for cool house decoration, the embellishment of the outdoor garden in winter, &c. Some twenty years or so later saw the introduction, also from Japan, of a more vigorous *Skimmia*, in which the male and female flowers were borne on different plants. The male form of this became general in cultivation as *S. oblata* and the female as *S. fragrans*. So far all was well until further research led to the discovery that the plant so long known in gardens as *S. japonica* was not a native of Japan at all, but of China, and that the true *S. japonica* of Thunberg was that known as *S. oblata*. This seemed to be conclusively proved, at least to the satisfaction of our botanical authorities, who named the one-time *S. japonica* in honour of its discoverer, *S. Fortunei*, while *S. oblata* became the true *S. japonica*. As this revised nomenclature is adopted in some nurseries, and in others the old style is still retained, the confusion prevailing is very obvious.

That portion of the "Kew Hand List" dealing with the *Skimmias* puts the matter so clearly

that it is worthy of reproduction here:—*Skimmia Fortunei* (Mast.), China: syns. *S. japonica* (Hort.), *Bot. Mag.*, t. 4719 (not Thunb.), *S. rubella* (Carr.). *Skimmia japonica* (Thunb.), *Gard. Chron.*, ser. 3, 1889, Japan; syn. *S. oblata* (Moore). Seedling varieties or sexual forms of this are:—*S. fragrans* (Carr.), *S. fragrantissima* (Hort.), *S. Foremani* (Hort.), *Gard. Chron.*, ser. 3, 1889; *S. intermedia* (Carr.), *S. oblata* var. *ovata* (Carr.), *S. oblata* var. *Veitchii* (Carr.), *S. Rogersii* (Hort.); *Skimmia Laureola* (Hook fil.), Himalayas, syns. *Laureola fragrans* (Roem.), *Limonia Laureola* (Wallich.)

This last-named species has yellowish flowers and large berries, but it is quite a rare plant, and even when met with is by no means invariably in a flourishing state.

Though *S. Foremani* is, as may be seen from the above, indistinguishable botanically from *S. oblata*, it is of great value to the gardener, not only as a shrub in the open ground, but when in pots and laden with its bright-coloured berries it may be used for decorations in draughty corridors and similar places, where tender subjects would be quickly ruined. The clusters of flowers in the spring months give, too, an additional interest to the plant, particularly as an outdoor shrub.

H. P.

RECENT PLANT PORTRAITS.

THE April number of the *Botanical Magazine* contains portraits of the following plants:—

Philodendron calophyllum, a native of Brazil and Guiana. This is also known under the synonym of *P. niveo-chermesinum*, *P. prieurianum*, and *P. nobile*. An exceedingly handsome plant, conspicuous from the deep brilliant carmine colour of the interior surface of the spathe, which is edged with white. It flowered in the Aroid house at Kew in April, 1901.

Viscum cruciatum, a native of Spain, North-East Africa, and Syria. This is also known as *V. orientale* and *V. baccis-purpureis*. It is the red-berried Mistletoe, and was introduced to this country by the Hon. C. Ellis, who obtained seed of it from Morocco. He succeeded in grafting it on young Olive plants from the Riviera after two or three years of careful attention by daily moistening the surrounding bark of the stock till the seeds germinated and put out roots. Two of these, male and female, he presented to Kew, where they are now bearing fruit in the Heath house.

Tupia tru grandis, a native of the Malayan peninsula. This is a curious and rather handsome Aspidistrad from the dense forests of Perak. It requires the temperature of a stove or tropical house.

Corydalis thalictrifolia, a native of China. This is one of the largest of

the Chinese species of the genus, and bears spikes of bright golden-yellow, trumpet-shaped flowers.

Kalanchoe somaliensis, a native of Somaliland. A pretty species, bearing bunches of long-tubed, Bouvardia-like flowers of a creamy white colour. It was introduced by Sir William Edmond Loder, Bart.

The second number of the *Revue Horticole* for March contains a portrait of *Ruellia lorenziana*, a native of Uruguay; a very ornamental species, bearing bunches of purple-lilac flowers.

W. E. GUMBLETON.

NEW AND RARE PLANTS.

AGAVE BAKERI.

THIS is a new and striking Agave which has flowered this year for the first time at Kew, where it has been an attraction in the Mexican house since January. It was purchased in 1889 at the sale of the collection of succulents formed by the late J. T. Peacock at Sudley House, Hammersmith, but nothing more is known of its origin. It belongs to the Littaea section of the genus, the members of which have innumerable flowers in pairs, forming a dense cylindrical subspicate inflorescence; one of the best known of them is *A. Kerchovei*, of which there are numerous varieties. The leaves of *A. Bakeri* are 3 feet



AGAVE BAKERI IN THE MEXICAN HOUSE AT KEW.

long and 5 inches wide, tapering to the base to half that width, and to the apex to a sharp point, tipped with a short brown spine. The margin is spineless, with a continuous narrow brown border. The flower spike is 8½ feet high, and the flowers, which are packed as closely as those of a garden Hyacinth, are nearly 2 inches long, with recurved pale greenish yellow segments and long rigid stamens and style. The flowers at the base of the spike open first, and they continue to expand gradually upwards. The plant in effect is not unlike a gigantic Eremurus. This plant has been named by Sir Joseph Hooker in compliment to Mr. J. G. Baker, F.R.S., late keeper of the Kew Herbarium, whose monograph of Agaves, published twenty-five years ago, is a masterly arrangement of what was previously all confusion. A figure and description of this Agave will shortly be published in the *Botanical Magazine*.
W. W.

AN ARTIST'S NOTE-BOOK.

FRITILLARIA ASKHABADENSIS
AND IRIS WARLEYENSIS.

At the Drill Hall on March 8, and again on the 25th, I exhibited these two plants, when they obtained an award of merit and a first-class certificate respectively. They were part of the results of a botanical expedition initiated and arranged by Mr. J. Hoog, of Haarlem. *F. askhabadensis* is one of the Petilium group, and was found growing in a district in Persia.

Iris warleyensis is a new species from Bokhara, and belongs to the Juno section. A scientific description of this Iris from the pen of Sir Michael Foster will shortly appear. The *Fritillaria* has been described by Mr. Baker.
Warley Place. E. WILLMOTT.

[The *Fritillaria* will be figured next week.—
Eds.]

YUCCA FILAMENTOSA.

In the old garden at Rose Brake there are many Yuccas which have attained a venerable age. Just how many years have passed since they were planted I am unable to say, but the estate passed into the hands of the family who now own it away back in the fifties. When the mother of the present occupant came to live here in 1859 the Yuccas had long been established in the vegetable garden, and they have never been moved. They still stand, in stately rank and file, down each side of the main path through this garden. They never fail to throw up flower stalks, often taller than the tallest man, to lend a glamour of mysterious beauty to the nights of June. The Yucca is the true "flower o' the moon."

In Margaret Fuller Ossoli's journal she speaks of a Frenchman to whom society was no longer attractive, and who had given himself up entirely to the study of plants. "I had," says this person, "kept two specimens of *Yucca filamentosa* during six or seven years without their ever having come to flower. I do not know the flowers of this plant, and had no idea of the sentiments which they might call forth. In the month of June last I discovered a bud upon the plant that had the best exposure, and two weeks afterwards the second plant, which stood more in the shade, also began to bud. I imagined

that I was about to have an opportunity of examining the blooming of the one after the other; but no, the most favoured of the two waited for its companion, and both of them bloomed together, just at the time of the full moon. This coincidence struck me at first as uncommon, but when I saw the flowers by the clear light of the moon I comprehended it. This plant is created for the moon as the *Heliotrope* is for the sun. It is not acted upon by any other influence, and does not unfold its beauties by any other light. The first

daylight, gleam with a silvery lustre in the moonlight.

"Like all bell-shaped flowers, it is unable to close entirely after it has once opened, but it contracts and nearly shuts up at noon, letting its petals droop sadly. The leaves also, which at night look large and vigorous and stand out boldly from the stem in the shape of a fan, like those of the Palm, appear languid and imperfectly formed during the day. Their edges seem ragged and unequal, as if Nature, dissatisfied with her work, had left them without bestowing the last and finishing touches. On the day after the night on which my Yuccas first bloomed I could not understand my misapprehension, for the flowers seemed to have lost all their beauty. But on the second evening I returned to the garden. There, in

the soft light of the moon, my precious flowers expanded, and were more lovely than before. The stem rose up into the air, straight as an arrow, all the flower-bells grouped themselves around it in the most graceful manner, and the petals, more translucent than crystal, shone with a pearly light. The outlines were clearly defined and yet as airy as if they had been woven by the beams of the moon. The leaves, which had appeared ragged during the day, seemed now bordered with the finest gossamer fringes. I gazed at my beautiful plant until my emotion became so strong that I restrained it with

difficulty. Then a thought filled my soul. It was that this flower of the moon is the most perfect symbol of the beauty and of the purity of woman.

I have since had frequent opportunities of studying the Yucca, and of ascertaining by frequent observations the truth of what was revealed to me so poetically—that this flower veils its charms from the bright eye of day and reveals them only to the divine eye of the night."

There is something weird and phantom-like in the appearance of the scattered groups of Yuccas on a clear midnight. The garden seems a haunted place. At a little distance they look like tall, shrouded, mysterious forms, some proudly erect, some bending as though oppressed with grief, while others, drooping to the ground, seem to recline languidly upon

the bank, and all beckoning and nodding fantastically, in solemn conclave, like veiled guardians of the secrets of the moon. But though they are of such poetic interest to all lovers of the beautiful, they are no less interesting to the scientist. I once read in the *Scientific American* that at a meeting of the American Scientific Association a good



THE NEW IRIS WARLEYENSIS
(NATURAL SIZE).

(From a drawing by H. G. Moon. The colouring of the flower is very beautiful, soft azure-blue, with purple on the falls.)

night that I saw it in flower I felt a special delight, I might even say ecstasy. Many white flowers show to the greatest advantage in broad daylight. The Lily, for instance, with its thick, firm petals of pure white, requires daylight to bring out its full beauty; but the transparent petals of the Yucca, of a greenish white, and looking dull in broad



NEW BEJONJA BUISSON ROSE (LEMOINE ET FILS).

many years ago Professor C. V. Riley called the attention of that body to an interesting discovery relating to the fructification of Yuccas.

Those who have read Darwin's "Fertilisation of Orchids" are familiar with the delicate and sensitive contrivances through which the bee-moth and other insects are made the unconscious agents by which these wonderfully delicate and beautiful plants are rendered fertile. The insect while in search of the sweets that are concealed at the base of the long tubular nectary receives upon its head the fine seed-bearing pollinium, and this is in turn transferred to the stigma of the flower next visited, where it remains to fulfil its purpose as a seed germ. In these cases, however, though there are evidences of design or adaptability, yet the act of transferring the pollen is evidently an unconscious one, being an incident merely to the main purpose, that of obtaining food, and, though the transfer is oftenest made through this agency, it does not appear that the plant is entirely dependent upon it for fructification.

"The case of the Yuccas," says Professor

moths. This truly wonderful little insect may be regarded as an anomaly, from the fact that the female only has the vassel joint of the maxillary palpus wonderfully modified into a long, prehensile, spined tentacle. With this tentacle she collects the pollen, and thrusts it into the stigmatic tube, and, while thus fertilising the flower, she leaves with the flower-egg a few eggs of her own to subsequently nourish upon the seeds which her labours have rendered possible." Is not this an admirable contrivance? It is quite in keeping that this strange and reserved flower should not reveal her innermost heart to any of the ordinary wayfarers of the night, but possess, as it were, a chateleine of her own, to whom alone pertains the right of investigating the arcana of her hidden mysteries. The day that I read about the *Pronuba Yuccasella* I went and peeped into a Yucca bell and found the pretty occupants fast asleep. They were not fairies perhaps, but they were as dainty as fairies, although they took the shape of pure white moths, less than an inch long, who had fancied the Yucca's cool, spotless bed-chamber for a noonday nap. There were at least a dozen of them. I looked

Riley, "may therefore be regarded as a marked and exceptional one. The flowers of this plant are so peculiarly constructed that it is impossible for the pollen to reach the stigma, save through the direct intervention and assistance of an insect specially adapted for the purpose, a condition due to the fact that the pollen is glutinous, and may not be carried by the wind, or projected against the stigma by the plant itself, as in the case of certain of the Orchids. The insect on whose presence and labours this plant is dependent for its fertilisation has received the name *Pronuba Yuccasella*, and belongs to a new genus of

moths. This truly wonderful little insect may be regarded as an anomaly, from the fact that the female only has the vassel joint of the maxillary palpus wonderfully modified into a long, prehensile, spined tentacle. With this tentacle she collects the pollen, and thrusts it into the stigmatic tube, and, while thus fertilising the flower, she leaves with the flower-egg a few eggs of her own to subsequently nourish upon the seeds which her labours have rendered possible." Is not this an admirable contrivance? It is quite in keeping that this strange and reserved flower should not reveal her innermost heart to any of the ordinary wayfarers of the night, but possess, as it were, a chateleine of her own, to whom alone pertains the right of investigating the arcana of her hidden mysteries. The day that I read about the *Pronuba Yuccasella* I went and peeped into a Yucca bell and found the pretty occupants fast asleep. They were not fairies perhaps, but they were as dainty as fairies, although they took the shape of pure white moths, less than an inch long, who had fancied the Yucca's cool, spotless bed-chamber for a noonday nap. There were at least a dozen of them. I looked

into other bells on other Yuccas and found them occupied by the same airy visitants. I wondered if these were not the Yucca moths, whose mission it is to fertilise the beautiful blossoms as a recompense for bed and board.

A heavy thunderstorm came up, the Yuccas swayed in the wind, bent over until they swept the ground, and the blossoms seemed too frail tenements to sustain their occupants. I felt afraid that they would be dislodged and blown about at the mercy of the storm. The rain fell in sheets, and, when it was over, I peeped again into the dripping bells. Not a moth-guest was discomposd; all seemed to sleep serenely, waiting for the fire-fly signals to herald the summer night and awaken them to elf-like revels under the light of the summer moon. "Thus," I said to myself, "Nature takes care of her own." The lady of the Asters thus writes of my favourite Yuccas:—

THE YUCCA.

The glamour flower doth bloom again,
The flower of which the Moon is fain.

Down the long border, in the night,
Glides the Moon-maiden faintly white.

Under the Yuccas I saw her stand,
Resting a cheek on a slender hand.

The great white blossoms shone and shone:
A moment more—the dream had flown.

O Yucca! Flower of mystery!
How the Moon-maiden loveth thee!

Long, long ago, ere the world was old,
When the sad Moon felt she was turning cold,

Down to the earth her flower she sent;
Pearl-bloom and tear-drop lustre blent.

And now, when they bloom in the border there,
The Moon-maid floats from her home so bare.

In the lone garden a space to weep,
While yearning fancies invest our sleep.

'Tis the saddest, the sweetest day o' the year,
For in every cup I have found a tear—

A tear that smiles with a tender light,
And I know who shed them yesternight.

DANSKE DANDRIDGE.

West Virginia, U.S.A.

THE KITCHEN GARDEN.

THE LATE BORECOLES IN SPRING.

IN many parts of the country there will, I fear, be a scarcity of good green vegetables for use during April and May, and I fear in many gardens the late Broccoli crop suffered badly. This will cause a dearth of good vegetables at the season named, as I note the same scarcity exists in the north as in the south; indeed, I fear most spring vegetable crops will turn in later than usual. On the other hand, the Borecoles or Kales, as they are usually termed, are now doubly valuable. In my case a certain percentage of the early Spring Cabbage has run or bolted. This is our own fault and not due to the variety, as we are always anxious to have very early supplies, and invariably too early sowings or large plants do not winter well, at least if they do they bolt in the spring. This last remark does not apply to the second sown lot of plants, as not one in a hundred has failed, although the severe weather in February checked the growth badly.

With regard to the Kales there can be no doubt that these are the most valuable late winter and early spring vegetables we have. Some kinds are much later than others, and one of the best I have grown is Read's Improved Hearting, a very late variety, remarkably hardy, dwarf, and compact in growth, and will stand severe winters uninjured, while it is one of the last to run to seed, giving a full supply of delicate, finely curled heads till the

Spring Cabbage turns in. Of course, to get this late supply it is necessary to grow good plants and to sow for this purpose. It is useless to sow in March, and, as is often done, too closely, leaving the plants in the seed bed till late in June after the ground is cleared of Potatoes or other vegetables. I would advise later sowings for a full supply at this season any time, say in April, is early enough; indeed, the end of the month in the southern part of the kingdom. Sow thinly and put out the plants when large enough, as the earlier the planting the better, as then the seedlings have a better chance of obtaining a good root hold before winter.

The culture of Kales is very simple. I need not dwell upon it, but would add that the long-drawn weakly seedlings fail to provide a full crop of greens at this season, and if ground is not available for the seedlings at the time they are large enough for their permanent quarters prick them out in rows a few inches apart. Treated thus they make sturdy plants, and lift well into their permanent quarters when required. Kales like a deeply cultivated soil, and well repay for ample space. There is no lack of really good Kales for cutting at this season, and no note would be complete without referring to two recent introductions, the Arctic Curled varieties (Sutton), which differ very much from the ordinary Scotch varieties, the stem being much dwarfer, and this is an advantage, as in severe weather in the northern part of the kingdom I have seen the stems of the tall Green Curled Scotch Kales killed by frost. The Arctic Kales are unusually dwarf, very compact, and produce dense masses of beautifully curled leafage; they are of splendid quality when cooked, with very little waste in their preparation. Even these compact growers need space, as they produce leaves of fair size and should not be crippled; they are certainly the hardiest Kales I have grown, although the one noted above is very hardy. I had some injured in the severe February weather we experienced in 1895. So far the Arctic has stood well, and in the north is ever better in this respect than in the south, as owing to its dwarf growth it is more readily protected by snow. There are two forms, the Green Arctic and the Purple, both equal as regards good quality and hardiness.

Another very fine Kale is the Hardy Sprouting, which, planted alongside of the older Scotch Kales, was remarkably hardy, and one of the very few green vegetables that wintered safely in 1895. This variety produces a great quantity of sprouts all along the stems; they are delicious when cooked, and take up less room than the spreading varieties. Mention should be made of such kinds as the Cottager's Kale and the Asparagus, both excellent for use at this season. The young, tender sprouts when cooked make a delicious vegetable. Both are old kinds but good, and well worth

space in all gardens. The two last-named are valuable for their hardiness, but, like the others noted above, should be sown late for a spring supply, and, though they need a deep soil, it should not be too rich. Others well worth including are such as Carter's Thousand Headed and the older Ragged Jack. Mere variety is not needed, but hardy kinds that will give a supply when others fail at a season of the year when green vegetables are scarce. G. WYTHES.

PERPETUAL OR SPINACH BEET.

I CANNOT say that the Perpetual Spinach, or Beet Spinach as it is often called, is equal in quality to the ordinary Spinach that grows so freely from now until July, but it is most useful. Frequently the winter or autumn-sown Spinach is killed by our erratic winters, and it is well to have the Beet Spinach to fall back upon. Take the past season. Our August-sown Spinach was healthy and promised well; indeed, owing to the mild weather early in the winter it had begun to grow freely, but was entirely killed by the frost we had the third week in February. The coarser Spinach referred to grows strongly and has ample leafage. Sow the seed in April or May in rows 18 inches apart, and with 9 inches between the plants. This sowing will give good leafage from Christmas to May, when there is often a scarcity of good leaves of the Round or Prickly kind. Even when the last-named does winter well, it is desirable to have an extra supply. By sowing a few rows of the Perpetual an additional vegetable may always be relied upon for the winter months. G. W. S.

NEW FIBROUS-ROOTED BEGONIAS.

THE subjects of our illustrations are two good new forms raised by Messrs. Lemoine. Perle Lorraine is a hybrid of *B. polyantha* and *B. Dedalear*, the latter a winter-flowering kind,

with handsome foliage. The plant has a height of some 18 inches, and is about as much in width, with finger-thick, fleshy stems branching from all the axils. The bright green leaves are spotted and clouded with black on the upper side, and are of a lighter green, spotted with red, underneath. The flowers are two-petalled and carried in lax panicles of from thirty to forty blooms; they are white, a little rosy to the centre, and last for nearly forty days. The blooming season begins in January and continues to the end of April.

Messrs. Lemoine also announce another good plant in *Begonia Buisson Rose*, a hybrid of *B. diversifolia* and *B. polyantha*, with rose-coloured flowers and small foliage, growing into bushy plants over 2 feet high. This is suited for outdoor culture, as the flowers appear about the end of August. The plant can be lifted before frost and put into frames, to be transferred later to the cool greenhouse, where it continues to bloom till January.

ORCHIDS.

ORCHID GROWING IN BELGIAN LEAF-SOIL.

UNDOUBTEDLY many Orchids thrive and flourish much better in the above material than in any other. The new hybrid *Phaius*, for instance, grow in this leaf-soil in an extraordinary way. *Phaius tuberculatus*—a rather difficult Orchid to keep in good health for a long time—imparted a somewhat weak constitution to its progeny, and even when the vigour of *P. Wallichii*, *P. sanderianus*, *P. assamicus*, *P. grandifolius*, &c., was added, the resulting hybrids were not considered really free growing plants. Many complaints were made that they were much too difficult to



NEW BEGONIA PERLE LORRAINE (LEMOINE ET FILS).

grow and very disappointing on that account. The leaves, as a rule, had a more or less sickly, unhealthy appearance, hence these beautiful productions acquired an indifferent reputation, but when grown in Belgian leaf-soil, which is naturally impregnated with sea salt and sand, a marked difference is seen. The plants grow luxuriantly, the leaves maintaining a glossy bright green healthy appearance, and to the immense number of roots the plants develop in this soil the strong inflorescences which are freely produced, lasting about seven weeks in perfection, are no doubt due.

In one year small plants from 3-inch pots grown on in Belgian leaf-soil made strong specimens, which required 6-inch pots, many of them throwing two and three flower spikes to each plant. To quote other species as examples: *Lycaste Skinneri* and *Zygopetalum intermedium*, flourish in the same vigorous manner; *Miltonia vexillaria*, poor plants in small pots, potted on in October and November, 1901, are now good plants in 4½-inch pots with very

batch in leaf-soil was so abundantly evident as to carry conviction to the most sceptical. I am perfectly satisfied with the use of leaf-mould, and cordially invite everyone interested in this culture to see for themselves plants grown in the Belgian leaf-soil. There are to-day numbers of plants in Britain potted and growing in it.

There are certainly several points connected with this culture which have to be studied, hence I do not advise every Orchid grower to at once place each and every Orchid in Belgian leaf-mould, rather do so by degrees, when convenient, and at the proper time for potting or repotting the plants, and I feel sure growers will be satisfied with the results. The main points to success are care in watering and a genial growing atmosphere, and both are points on which firm guiding rules cannot well be laid down, but the principles governing them are easily grasped. The culture as regards potting is very simple. Choose a suitable pot, a shallow rather than a deep one if possible, without holes in the sides. Place one crock in the bottom, then a handful of leaf-mould, hold the plant in position, so that the rhizome is just below the rim of the pot, fill in with leaf-mould pressed firmly but not heavily to just below the rhizome, then finish off with a layer of sphagnum moss chopped fine and pressed firmly level with the top of the rhizome, using stakes or not according to the requirements of the plants. Now comes the period when the greatest care is necessary. When peat and moss were used, if the compost had been properly mixed and drained, overwatering was hardly possible, as water passed through the pot as quickly as it was given. But with leaf-mould we have a larger body of material and of quite an opposite character, hence water must be very carefully given until the plants are well rooted. It is far better to err on the dry than on the wet side. On the other hand, the pots, stages, walls, and paths of the houses should be frequently damped, and if this is thoroughly performed it will be found that watering is but an occasional operation.

Newly potted Orchids generally root first of all into the material on the surface of the pots or pans they are placed in, and this they do quickly after repotting when they have been potted at the right time. We often see on sphagnum moss on the surface of the pots quite a network of roots before any of the roots have penetrated the leaf-soil. This arises from the fact of the roots finding suitable food in the moss and from the repeated waterings the moss receives. If soft water is used the moss never becomes stagnant or sour, because after potting and the first watering or two it commences to grow and continues to do so, but when this source of food supply has stopped the roots then permeate the leaf-soil, ultimately almost wholly absorbing it, so that in place of the leaf-soil you have a pot full of roots. Surely this is satisfactory. Attention to ventilation practically remains the same, but in shading, particularly with Cattleyas, it seems better to admit more light than is usually given to plants in peat and moss.

I have been more or less connected with the cultivation of Orchids for upwards of forty years, and for the last twenty-five years have been almost wholly occupied in growing, buying, and selling Orchids. During that long experience of Orchid growing I have seen many attempts at their culture in leaf-mould by various good growers, and several times in twenty-five years I have myself given it a good trial, but not until I grew them in Belgian leaf-soil did I obtain thorough success. It may be possible to grow Orchids well in the usual leaf-mould that one gets in Great Britain. I have tried it many times and never succeeded satisfactorily, but in that procured from Belgium I have succeeded in a manner which to my mind leaves no question whatever as to its superiority. Apart from my personal experience I may say that R. H. Measures, Esq., of The Woodlands, Streatham, has used Belgian leaf soil for many years with

marked success, and a great number of the most valuable Orchids in The Woodlands collection are now in a flourishing condition in that material. Again, the Orchids at Bushy Down are thoroughly well grown. They now cannot well be surpassed for excellence of culture, whereas formerly they were not at all satisfactory; but for the past four or five years they have been grown in Belgian leaf-soil, and this is probably the reason that they are now in such grand condition.

An important saving is made in labour by using leaf-mould, for a man can pot or repot certainly three times as many plants per day in leaf-mould as he could do were he to use peat and moss; then, again, his plants only need slight and occasional waterings, for if the moss on the surface of the pot is kept growing the plant thrives. Not so much labour is required in watering Orchids grown in Belgian leaf-soil as when they are grown in peat and moss in the ordinary manner. G.

CORRESPONDENCE.

(The Editors are not responsible for the opinions expressed by their correspondents.)

EXHIBITING VEGETABLES

[TO THE EDITOR OF "THE GARDEN."]

SIR,—In the same friendly spirit in which your correspondents, "A Grower and a Judge," page 210, and "Mr. A. Dean," page 212, criticise some remarks of mine on the above question in a previous issue, I will endeavour to substantiate more fully what I there stated, as I am perfectly certain we all have the same object in view—viz., that the highest state of excellence should be the aim of exhibitors, and that the best means of arriving at a just decision when competition is keen should be ensured.

To take, first, the remarks of "A Grower and a Judge," in which he disagrees with me that the seasons should be taken into consideration in making the awards. He states that in theory the proposition may be reasonable, but questions its practicability. Now, it is the latter which I am most anxious to prove is correct. In the first place, my remarks were intended to apply to all societies where prizes are offered for collections of vegetables, whether large or small, and not to the very few only which tempt exhibitors hundreds of miles away to compete, and of which I do not suppose there are more than a dozen all told.

It has been my pleasure and privilege to judge at a great many shows within a radius of 100 miles of London during the past few years, and during July and August last year I only came across two really good dishes of Turnips. These were perfect in every respect, and neither came from a locality favoured with showery weather. Now, to obtain these in such a high state of perfection during such trying weather must, I am certain, have entailed a considerable amount of care and trouble, which should, in my opinion, have met with more than ordinary notice from the judges. Again, take the case of Cauliflowers. I venture to say that ideal dishes of these were extremely few anywhere in the country last August, and yet, during a favourable season, these are most readily obtained. It is in such cases that I consider careful discrimination should be brought to bear. Whatever standard of pointing is set up, I am quite averse to giving the maximum of points unless the highest state of perfection is reached. For this reason I can never agree in judging by any fixed standard of points for vegetables. In the "Rules of Judging," issued by the Royal Horticultural Society, there are many valuable hints I am willing to admit; but now take one or two instances. The number of points allowed for Turnips is five, and the same for Endive and Cabbage (both cooking and red) and Marrows, and seven for Mushrooms, and yet I am sure your correspondent will be willing to admit that in trying seasons Turnips are far more difficult to obtain at their best than either of these.



A PAPHIUS GROWN IN BELGIAN LEAF-SOIL IN MESSRS. SANDER AND SONS' NURSERY AT ST. ALBANS.

(Note the roots round outside of pot.)

strong growths; *Oncidium*s, such as *varicosum*, *splendidum*, *concolor*, *marshallianum*, *sarcodes*, &c., grow magnificently in this Belgian leaf-soil, the result being not only seen in the greater size and vigour of the plants and flower spikes, but in their increased longevity, the plants continuing season after season to produce strong flower spikes. The same with *Odontoglossum*s, *crispum*, *triumphans*, *lateo-purpureum*, *Hallii*, &c., all show a marked improvement, the root action in the species mentioned being particularly noticeable, a sure precursor of substantial flowers and long spikes. Even yet more remarkable is the manner in which many Orchids, particularly hybrids, absolutely revel in this natural food. As a conclusive test in 1900 fifty seedlings, *Cypripedium*s, *Cattleya*s, *Laelia*s, and *Laelio-Cattleya*s were potted in leaf-mould, and fifty exactly similar plants were placed in peat and moss. The hundred plants were kept side by side and received identical treatment and care as regards air, temperature, &c., yet in less than nine months the improvement of the

I trust anything I have written will not lead anyone to think I hold that any judge should feel it his duty to examine the cards in order to ascertain to whom the various exhibits belong; nothing is further from my thoughts. I quite agree that it is the bounden duty of a judge to carefully compare each dish of vegetables as placed before him, but at the same time due justice should be given in such instances as I have cited, or what encouragement would there be for the extra skill and judgment required to produce them?

I am entirely at one with Mr. A. Dean when he suggests that the R.H.S. should give up one day and offer sufficient inducements to bring together a good vegetable display at the Drill Hall. What I desire to see is a large vegetable exhibition, held once a year somewhere in London, where all vegetable enthusiasts can take part, and are not handicapped by being compelled to purchase the seed from certain firms, grateful as we all are to those that offer such liberal prizes annually at our large provincial shows. I do think societies should offer more encouragement generally to this very important branch of horticulture, and that the R.H.S. should set the example. That our leading exhibitors display their produce to the best advantage I am willing to admit, but in my opinion the large majority have much to learn before they become efficient in this particular.

In deciding on the selection of, say, nine kinds of vegetables, I cannot help thinking that too much dependence is placed on certain ones. All practical exhibitors are pretty well agreed as to which will carry most weight, but no hard and fast rule should be practised as to this, unless, of course, all are in first-rate condition. For instance, a first-class dish of Turnips should be chosen in preference to a second-class dish of Carrots or even Tomatoes. I am distinctly at variance with Mr. Dean as to the quantity of vegetables being taken into consideration, forcible as his arguments may appear to be, and few men have had a wider experience or have taken a keener interest in vegetable culture, especially the Potato, than he has, and as a sound and practical judge he is second to none. Quite true, soils do govern to a great extent the cooking qualities of the Potato, but I venture to say that many of the most handsome varieties grown under the best conditions are practically worthless. Possibly, the most handsome Potato yet raised is International, yet its quality is only too well known; on the other hand, Windsor Castle is a general favourite, grows on almost any land. We might just as well say that a Fearn's Pippin Apple grown under the most favourable conditions would be as good as a Cox's Orange Pippin produced in a soil and locality quite unsuited for Apple culture, yet how often would the first-named variety take precedence when placed in the same competition, and why?

E. B.

THE GARDENERS' BENEVOLENT INSTITUTION.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—I was much pleased to see the appeal to gardeners respecting the Gardeners' Benevolent Institution, but I do think it might be made more attractive to young men. I think the contribution from gardeners should be £2 per annum, and this, with the honorary subscription, would make the fund much stronger, so that men who had subscribed ten years or more and were incapacitated from work might be placed on the pension fund after producing proper medical evidence that they were past work. They might be placed on the pension fund without waiting for election, as it often happens that old gardeners are in very straitened circumstances before they can be elected. This tells

heavily against this society, as there are other societies who can place their members on the pension fund at once, and young men look to this. Gardeners retiring on a good pension from a generous employer whom they have honestly served for many years might forego their claim on this society in favour of their poorer brethren. My great age has of late years prevented me from taking any active part in the society, but this note may be of some service.

RICHARD BUTLER.

St. Dunstan's, Regent's Park.

THE NEW HALL v. GARDEN.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—Unfortunately, I was not able to attend the general meeting of the Royal Horticultural Society called together on Friday, the 21st ult., to consider the question of securing a site for a new hall, which I have since learnt has been decided upon. No doubt the committee appointed for the purpose of selecting a site had given the matter their fullest consideration before recommending the adoption of such a step to the meeting.

Unquestionably a large majority of the Fellows are in favour of having a better and more convenient place for holding the fortnightly meetings and for other purposes, with which I entirely agree, providing the society is in a position to maintain it. That the exhibitions held are a great attraction and delight, and responsible for many of the new Fellows who have joined the society during the last few years, goes without saying. I cannot agree with your correspondent in a northern county (page 195) when he says that nearly all the space is taken up in the Drill Hall with what he calls common stuff. I am prepared to admit that on some occasions some of the exhibits are not of the highest standard, but this can hardly be prevented any more than it can at exhibitions. On the other hand, there is scarcely a meeting held but what something or other of the highest excellence is shown.

But when he comes to the question of a garden, in which he is so strongly in favour of, I am entirely at one with him, and I sincerely hope that, in spite of a certain amount of opposition, the council will not lose sight of the fact that a garden is urgently needed. That the old Chiswick garden is worn out as far as the soil is concerned I cannot admit, as this would be a small matter to get over, but the surroundings are so bad that to my mind it is waste

of money to attempt to keep these gardens going. If a suitable site could be procured within a radius of twenty miles of London, a garden should be not only equally as interesting as the fortnightly meetings but far more instructive and capable of rendering very much more assistance to horticulture by means of experiments and trials carried out on a large scale.

It is all very well to argue that the latter is sufficiently done by some of our leading nurserymen, but in my opinion this is not sufficient, and it could be much more fairly and impartially done by an independent body such as the Royal Horticultural Society, and where plants can be more generally inspected. As they would be examined by the best experts of the day, the relative value of the fruits, flowers, and vegetables could be determined, and at the same time synonymous kinds be detected, a matter of no small importance, as the long list of varieties catalogued nowadays of both flower and vegetable seeds is bewildering, not only to the amateur but to the professional. A garden well managed, as undoubtedly it would be, should to a great extent produce much that would help to maintain it. I hope I may yet see the Royal Horticultural Society possessing a garden worthy of such a body, beautiful and well cared for, and I am certain beneficial to horticulture in general.

E. BECKETT.

ROSE FLORA.

THIS is one of the most beautiful of the *Rosa sempervirens* group, which contains such Roses as *Félicité Perpetue* and *Myrianthes Renoncule*. Those who saw the Rose garden at Kew in full beauty last year will remember the glorious masses of *Flora*, a wonderfully vigorous and spreading Rose, with hundreds of flowers of pretty rose colouring, brighter in the centre than towards the margins of the petals. The *sempervirens* Roses form a delightful group, and *Flora* is as beautiful as any.

HARDY FRUITS IN SEASON.

APPLE BROWNLEE'S RUSSET.

Good late dessert Apples, that succeed well in our cold northern counties, where many of our



ROSE FLORA ON A WALL AT WARLEY. (Photographed by Miss Willmott.)



BROWNLEE'S RUSSET APPLE.
(Height of original $2\frac{1}{2}$ inches, width 3 inches.)

more tender varieties canker and fail, are none too plentiful this being one, of the hardiest, most prolific, and best in this respect. We are glad of an opportunity of illustrating this Apple and emphasising the above facts. Not only is it one of our best late dessert sorts, but it is also valuable as a cooking variety. The tree is a compact grower, and succeeds equally well in the garden or orchard. It is in season from February to May. O. T.

GARDENING OF THE WEEK.

FRUIT GARDEN.

APRICOTS.

KEEP the protectors ready for use until all likelihood of late frosts are over. The disbudding of shoots will now require attention, and by carrying it out gradually—extending it over a few weeks—harmful checks which would follow a wholesale removal of shoots will be avoided. In cases where young growths are chiefly depended upon for supplying the crops of fruit, proceed by removing the foreright and badly-placed ones, and finally leave sufficient of those properly placed to adequately cover, without crowding, the available spaces between the principal branches. Where the combined mode of furnishing bearing wood (that of both shoots and spurs) is followed, a greater supply of growths must be left, a considerable number of them being stopped at the third or fourth leaf. See that young trees are provided with a requisite quantity of young growths for direct extension and subsidiary branches. While these operations are in progress keep a sharp look out for the Apricot maggot, which may be found enveloped in the leaves, and destroyed by pressure between the fingers.

THINNING THE FRUITS

is not unfrequently left undone from want of courage in the cultivator, but it should be borne in mind that over-cropping both impairs the health of the trees and diminishes the size of the fruits. It is difficult to give precise directions to suit all cases respecting the distance apart that the fruit should be finally left, as so much depends upon the variety and the health of the trees. Such kinds as Henskirck and Peach, under favourable conditions, may, however, be allowed about 8 square inches of superficial wall space, while varieties of

the Breda type should be left considerably closer together. During the early stages of development the fruit of the Apricot does not swell regularly, and this fact must not be overlooked when early thinning is being done. Where trees are planted upon a porous subsoil, the condition of borders with regard to moisture should be examined, and they must be supplied with water if it is found to be needed.

MULCHING FRUIT TREES.

Generally speaking the mulching of fruit trees is best left until the soil has naturally become thoroughly warmed, and even then it sometimes, especially when indiscriminately performed, does harm rather than good. Newly-planted trees, however, as well as others with their roots near to the surface of light porous soils, can sooner or later, according to the state of the weather, be furnished with a layer of short stable litter, which will do a great amount of good by assisting in keeping the roots near the surface. Even in heavy soils, when warm, mulching does more or less good in dry seasons, by preventing cracking and lessening the need of artificial watering. Especially is this the case with such trees as are worked upon shallow rooting stocks or are naturally surface rooters. In wet seasons, on the other hand, it lowers the temperature of tenacious soils, and in this way discourages root growth.

THOS. COOMBER.

The Hendre Gardens, Monmouth.

THE FLOWER GARDEN.

ANNUALS.

It is a feature of present day flower gardening that, unlike thirty or forty years ago, there is now no orthodox style recognised in the arrangement of beds and borders. At that time to have deviated from the rules of arrangement set down by the majority would have meant incurring the risk of being thought behind the times, but to-day the taste of the individuals is the guide, and the more original and more varied the style the better it is usually appreciated.

It is quite permissible not only to have the hard formal lines of colouring obtained by the old school, which in some proximities is far more in keeping with the surroundings than any other form of gardening, but sub-tropical plants, such as Cannas, Wigandias, Castor Oil plants, Musas, and Tobacco plants may be employed in beds and receive their due amount of admiration. Bold foliage plants, such as Gunneras, Acanthus, Globe Artichokes, and even Rhubarb can now be used without their being looked at askance, while the use of annuals in every part of the garden is not only considered desirable but by some people indispensable. In fact, there are gardens where the bedding is entirely carried out with hardy and half-hardy annuals, and with beautiful results, especially when the plants are at their best, for they are eminently suitable for massing.

THE EAST LOTHIAN STOCKS,

Phlox Drummondii, Verbenas, Petunias, Asters, Salpiglossis, Helichrysums, and Scabious in their distinct colours are splendid for formal bedding purposes. Not only in masses are they delightful, but a mixed border composed entirely of annuals is most effective and charming. In forming a border of annuals one of the best arrangements is that advocated by Miss Jekyll for herbaceous plants and illustrated in diagram form on page 363 of *THE GARDEN*, 1901. By substituting annuals for the herbaceous plants as much alike in colour and habit as possible the idea may be well carried out. Those who have not already had an annual

border display should lose no time in obtaining one. The

CULTIVATION OF THE HARDY ANNUAL

itself is of the simplest. Take the opportunity when the weather is fairly dry to make the ground firm by treading and breaking up the rougher pieces of soil with the feet and then pulverising by means of a rake. The portions for the different seeds and annual plants should then be marked out with sticks, care being taken not to make them too formal. With the aid of labels every portion should show the particular seed that it is intended to receive that no confusion of colours may occur. In sowing, the fine surface soil should be drawn back by the hands, the seed sown thinly, and the soil returned and equally distributed over the surface again by means of the hand. When the seedlings are up great pains should be taken to

THIN THEM PROPERLY

to allow every individual plant ample space to develop. This and cutting away seed pods later on are the most important items of cultivation and ensure their enjoying a continuous flowering season. Amongst the best of the annuals for this kind of border are *Lavatera rosea splendens*, one of the most beautiful annuals we possess; *Callistephus sinensis*, one of the China Asters; *Acroclonium roseum*, an everlasting flower; *Calandrinia umbellata*, the Godetias, Larkspurs, Marigolds, (*Eurothras*, *Linarias*, *Clarkias*, *Brachycome* (Swan River Daisy), *Centaurias*, *Lupines*, *Cureopsis*, *Mignonette*, &c. To give height to the border Sweet Peas, *Convolvulus*, *Tropeolum*, and *Mina lobata* made to climb over stakes are very effective.

HUGH A. PETTIGREW.

Castle Gardens, St. Faguns.

INDOOR GARDEN.

HUMEA ELEGANS.

THESE plants should now be placed in their flowering pots, the compost consisting of fibrous loam three parts, leaf-mould one part, with dried cow manure, charcoal, and sand added. The roots should not be disturbed more than is absolutely necessary. It is also very important that the plant should never be placed lower in the soil than it has previously been. Let the potting be done firmly, and provide proper and efficient drainage. Great care is required in giving water after repotting, but the plants must never be allowed to become dry. When the roots have filled the fresh soil manure water should be afforded, as they require liberal treatment. If possible soft rain water should always be used.

GREENHOUSE RHODODENDRONS.

When repotting is necessary it should be done as soon as flowering is over. Thorough drainage is essential, and a compost of three parts peat, one part turfy-loam, charcoal, and silver sand. Pot firmly, and give water carefully until the roots become active. After potting the plants should be kept in a warm, close atmosphere, and freely syringed until growth is completed, when they may be hardened off and placed out of doors in a sheltered position.

CHINESE PRIMULAS

for autumn flowering should now be sown in shallow pans, filled within half an inch of the top with a mixture of equal parts of rich sound loam and leaf-mould, with sufficient sand to ensure drainage. Press this mixture firm into the seed-pan and make the surface perfectly level, sprinkling sufficient sand over the surface to cover the soil. Water with a fine rose before sowing. Sow very thinly and cover the seed with just enough fine soil to barely hide the sand, slightly pressing the surface. A piece of glass covered with a sheet of brown paper and laid over the pan will prevent rapid evaporation. While the seed is germinating the temperature should never be allowed to fall below 50° or rise above 70°. Sudden extremes of temperature are fatal to these plants at the time of germination. Double Primulas may be propagated by cuttings, or the old plants may have leaf-soil placed round the base of the stems, into which they will soon root and be fit for potting

into small pots. Of late years the double forms that have been raised seem to grow with much greater vigour than the old varieties, and may be easily grown from seed.

CINERARIAS.

An early sowing of these should be made now. Sow as advised for Primulas, but place in a cooler temperature.

CHRYSANTHEMUMS.

As soon as the pots are filled with roots the plants should be transferred to larger ones. A suitable compost is one consisting of two parts fibrous loam, one part leaf-soil, one part spent Mushroom-bed manure, and a sprinkling of bone-meal and wood ashes, with a free mixture of sharp silver sand. Too much care cannot be bestowed on the crocking of the pots, and the plants must be potted firmly. As the plants are repotted return them to frames and keep close for a few days. Water carefully until growth recommences. During bright days the plants should be lightly syringed overhead. Take measures to destroy green-fly on its first appearance.

JOHN FLEMING.

Wexham Park Gardens, Slough.

KITCHEN GARDEN.

POTATOES.

COMPLETE the planting of all kinds as speedily as possible after this date, but choose fine weather if possible, especially so on wet heavy land. It will be far better to wait a few days or even a fortnight than to attempt the work unless the ground can be worked and left in good condition, assuming the sets have been properly prepared and a little extra care is exercised in planting. Those growing in pits or frames should be well earthed up before too much top-growth is made, otherwise much damage will be done in the process. Give air freely and remove the lights entirely whenever the weather is favourable, as the more sturdy the growth the better will be the yield. Early plantations made on warm borders will have to be watched and the young growths covered up with soil or some other protecting material.

WINTER GREENS,

such as Broccoli, Brussels Sprouts, Kales, and Savoys should now be sown. It is always a good plan to make two sowings of these, the first about April 10 and another towards the end of the month. I much prefer raising these on small beds, sown thinly broadcast rather than in drills, and if the young plants are not overcrowded it will be quite unnecessary to prick out. Choose a piece of ground which has not been occupied with any of the Brassica family for at least twelve months, and especially does this apply when the ground is at all likely to produce clubbing, as this is frequently contracted when the plants are in the seed bed. Strew the surface with finely-sifted cinder and wood ashes, and add a little fine soil on stiff land. Securely protect against small birds, for where greenfinches abound they are certain to find the seed out and in a very short space of time to clear it. Small meshed garden netting stretched tightly about a foot from the surface is the most suitable for this purpose. Continue to prick out

BRUSSELS SPROUTS,

Cauliflowers, and early Broccoli which have been raised under glass on warm sheltered borders as they become ready.

CELERY.

The plants required for the main plantation should be pricked out in skeleton frames or turf pits from 3 inches to 4 inches apart. The soil should not be too rich. Shade for a few days during bright intervals of sunshine, and protect against frost and cold winds, so that the young plants receive as little check as possible; success in Celery culture much depends on this.

NEW ZEALAND SPINACH

is one of the most useful vegetables, especially so in hot dry seasons where Spinach is in demand, and yet for some reason it is little grown. Just the opposite to ordinary Spinach, it appreciates such a year as last, and when cooked can hardly be distinguished from the other. One or two sowings

should be made during April in boxes and planted out in a sunny position on fairly enriched land in May. It is somewhat tender, consequently it must be protected against frost, especially when in a young state.

CHICORY.

No one should fail to grow this when salads are in demand during winter, as it is not only easily cultivated and blanched, but it forms a splendid substitute for Endive, which is often none too plentiful during midwinter. Make two or three sowings, the first now on deeply-cultivated soil. Sow in shallow drills 1 foot apart and thin the plants to the same distance.

DANDELION

is equally valuable and requires about the same treatment, except that it should be grown in a sunny position.

E. BECKETT.

Aldenham House Gardens, Elstree, Herts.

MISCELLANEOUS.

"THE SEASON" IN THE GARDEN.

"When spring comes
With sunshine back again like an old smile."

AFTER the biting frosts of February and the droughts and gusty mad-nesses of March, how delightful to find the weather that has behaved so badly burst suddenly into tears and make up its mind to be good.

We hasten into the garden to meet the tearful penitent halfway and find her full of smiles. She has made the blue and gold embroideries at our feet look fresh as rain-washed pebbles, and everywhere old and new friends are pushing through the mould. In Daffodil corner, under the bare Willows (faintly blushing green), and in the hollow beneath the Fir trees, where grass will not grow, it is as cheerful with Ivy, Primroses, and the "grass" of bulbs as on the south border, where Scillas are blue and Tulips fast unfolding. The frost-bitten, frizzled-up Wallflower plants have recovered their good looks; a week or two ago "nipped" was no word for them.

Now, if ever, will those who have not been wise in time feel all the pangs of foolish virgins. There is no catching-up dropped stitches of the garden, but the provident who in autumn laid away those fast-bound little volumes—the bulbs—in Mother Earth's safe keeping now reap their rich reward. From January to May the garden pages will be gay. It is like a ballet—first one dancer and then another, and all in different frocks, but mostly blue and white and yellow. There is not much pink until the Hyacinths and the Tulips come, unless we count the Almond blossom overhead.

"The season" in English gardens is so amusing. It is a thousand pities to go off to London or the Riviera or anywhere else and miss it. The herbaceous border is getting lively. It, too, is filled with *débutantes*, but they do not join the dance full dressed. As yet they are but unfledged schoolgirls, with all sorts of shapes and complexions, only now and then giving a lovely contrast of colour, as when Galega and Pæony happen to be growing side by side.

But the fernery is the most amusing place. If only the grown-up summer Ferns could know how they looked in the hobbledohy stage of May they would never believe their eyes! The Royal Osmunda is one of the funniest looking while growing up. He shoots aloft as straight and lanky as an overgrown schoolboy, and he has a small bullet head at the top (he will unroll it by and by) which makes him look almost like a snake reared up

on end, inquisitive but amiable, and very intelligent. The clustering Hart's-tongues are not unlike a nest of viperlings half un-wiggled, and the great big Male Ferns that have left their soft white woolly fastnesses, where they were rolled up so warm and cosy like soldiers in their blankets, are all uncoiling and coming back to life.

Every bird in the garden is almost too much preoccupied to enjoy himself; there is so much house hunting and housekeeping to do. The chatter and gossip of birddom is even prettier to listen to now than the songs. Blackbirds are finding out the shrubs that have back doors to them, so as to go in and out to their nests unnoticed.

Nor are we without the excitement of the "Vanishing Bulb" or the "Disappearing Seed" for that matter, or the creeping Crocus. The Crocuses puzzle us most of all, Mr. Barr's beautiful big Crocus particularly. The mauve one with the striped bell and a large golden clapper inside must have legs and go along underground, or why do we find him in the midst of the Wallflower beds, or at the edges of the lawn where no one ever thought of planting him? It is not as if he had once been a seed; no bird under an eagle could have dug up and replanted that Crocus bulb. Seeds of course do disappear, and that in spite of having been treated to baths of paraffin.

But these whimsies are exactly what makes the garden so ever fresh; there is something of the gambler's joy about it, for we have the mingled chance and skill characteristic of the best games, and our cards and counters are all alive. Last autumn we planted stacks of *Omphalodes verna*, the Blue-eyed Mary, a gift from a Hampshire garden, in a place where we thought it would be most comfortable. Not a scrap is showing above ground, but a tuft has appeared and is in full bloom in a corner which belongs to the Hops! How did it get there? There is no accounting for these things.

And how delicious is the smell of the moist earth. Two hundred years ago old Thomas Fuller was enjoying just such a spring as this. "To smell to a tuft of fresh earth," he says, "is wholesome for the body." It is pleasant to think of all the happy chain of springs, past, present, and to come, that link the years together, and keep our earth and us for ever young. Nowhere better than in our English gardens can we enjoy

"The Spring's delicious trouble in the ground,
Tormented by the quickened blood of roots,
And softly pricked by golden Crocus sheaves."

F. A. B.

A BOTANIST IN THE YANGTSE VALLEY.

MR. E. H. WILSON, a London botanist, has just completed a three years' botanical exploration of the Yangtse Valley, and the Yunnan Province which joins up to Burma, two years being spent in the former place and a year in the latter. The mission was undertaken at the instance of Messrs. James Veitch and Sons, Ltd., Chelsea, and in a public way Kew Gardens and other botanical museums throughout Great Britain will be considerably enriched by it. Mr. Wilson is an old Kew man and a former student of the Royal College of Science. He accorded an interview to a representative of the *North China Daily News* and gave him some interesting facts about the flora and fauna of the Yangtse Valley and other less known districts which he has visited and explored. He said that he had collected 2,600 Herbarium specimens. His object has not been to collect any particular species of plants, but anything likely to be of interest or value to the botanical world.

"I have every reason to believe," he said, "that I have discovered some new species which will

materially add to our knowledge of the flora of Hupeh." He then proceeded to briefly describe his experiences:—

"Until you reach Ichang the country is flat and monotonous, but a few miles below Ichang you begin to strike a mountainous region. To the north-west you get mountain ranges, with peaks rising from 5,000 feet to 10,000 feet high. It is in this district that nearly all my collecting has been done. Through the Yangtse gorges, the glens, the creeks, and along the cliffs I have spent a good deal of time. The country is rich in plant life, the low-lying as well as the mountainous part. The most noteworthy thing about these mountainous regions is the paucity of the inhabitants. There are probably not three inhabitants to the square mile, and an interesting point is that they all suffer from goitre, a disease of the throat, which they attribute to drinking snow water. That is one striking feature about the people. Now there is another. They live almost exclusively on the common Potato, which thrives luxuriantly here. It forms their staple food. It is too cold to grow Rice, Maize, or Wheat. The Potato was introduced to the district by the Catholic Fathers about a century ago. In this region the tiger, leopard, wild pig, wild goat, deer (both long-horned and short-horned), wolves, and foxes are very common. The common pheasant, Reeve's and golden pheasant are also to be found here in large quantities."

Describing the climate, Mr. Wilson said:—"In the summer in Ichang the thermometer often runs up to 110°—i.e., of course, during the hottest season of the year, while in the winter it falls as low as 25°. The average rainfall is about 30 inches per annum. Ichang is a healthy place for Europeans to live in. I would add that a pleasing characteristic of the people of Western Hupeh is their extreme friendliness towards foreigners, who never get insulted. I was there during the Boxer troubles, and never had any bother of any sort."—*Indian Gardening and Planting.*

EXHIBITION VEGETABLES.

(Continued from page 204.)

TURNIPS.

SMALL sowings should be made frequently from the beginning of March until the middle of September on land that has been deeply broken up and manured the previous season. The ground should first be raked down with a wooden rake, and afterwards with an iron one, leaving the surface well broken up and friable.

Whatever the ground that has to be dealt with make drills about an inch deeper than is considered necessary for the seed sowing, and into this place a compost of the old soil from the potting bench, with a peck each of soot, lime, and wood ashes added to every barrowload. Mix the whole thoroughly and pass through a fine sieve. When the seed is sown cover it with the same material. It will be necessary to protect against birds, which are often very troublesome. Garden netting should be stretched over iron hoops thus enabling the crop to be easily thinned. This must be done as early as possible. Copious supplies of water should be given in dry weather, also a dusting of wood ashes and artificial manure every week, and a dressing of soot once a fortnight. Perfect Turnips ought to be of medium size with small tap roots, clean skin, and crisp and juicy flesh.

When preparing roots for exhibition soak them for half an hour and remove all dirt with a sponge, giving two or three more washings to make them quite clean. For early shows sow seed on a south border of Early Red and White Milan about the middle of February. For later use Snowball and Jersey Lily are

excellent, the latter being very handsome and of delicious flavour.

Turnips when in perfect condition frequently prove invaluable to the exhibitor of a collection of vegetables. They should always be included in a collection of twelve dishes, and often when eight or nine only are required. A valuable Turnip for May shows is a greatly improved form of Jersey Navet named Carter's Forcing, which, if sown at intervals during March in cold frames, produces splendid roots of the best quality.

E. BECKETT.

SOCIETIES.

ROYAL HORTICULTURAL SOCIETY.

ON Tuesday last the Drill Hall was filled to overflowing with a great variety of plants and flowers. Narcissi were very numerous, as also were hardy plants and forced flowering shrubs; these were quite a feature, and a very beautiful one too. Orchids were extensively shown, while fruit and vegetables were conspicuous by their absence.

ORCHID COMMITTEE.

Present: Messrs. Harry J. Veitch (chairman), James O'Brien, de B. Crawshaw, H. M. Pollett, H. Ballantine, E. Hill, James Douglas, N. F. Bilney, F. W. Ashton, W. Thompson, H. T. Pitt, J. W. Odell, F. J. Thorne, W. H. Young, W. Boxall, T. W. Bond, J. Wilson Potter, J. G. Fowler, and H. Little.

Messrs. F. Sander and Sons, St. Albans, showed several plants of Phaius grown in leaf-mould. These comprised P. Norman var., P. Marthe var., and P. sanderianus. Messrs. Sander also exhibited other Orchids, including Odontoglossum harryano-crispum, O. h. c. var. primum, O. ramosissimum, Lælio-Cattleya schilleriana, Anguloa Clowesi, Cattleya Schroederae, &c. Silver Banksian medal.

Messrs. James Veitch and Sons, Limited, Chelsea, exhibited a group of beautiful Lælio-Cattleya and other hybrids. L.-C. highburensis was numerously represented, as also was Lælia Latona (L. purpurata × L. cinnabarioria). L.-C. Myra var. Princess of Wales, Lælia flavina (L. pumila × L. flava), L. Novelty (L. elegans × L. pumila), L.-C. Vacuna, Chysis Sedeni, and others were noticeable. Silver Flora medal.

Messrs. Charlesworth and Co., Heaton, Bradford, Yorks, displayed a small group of Orchids, containing several very choice plants. To one of them—Lælio-Cattleya Dora (C. Schroederae × L.-C. Phoebe)—an award of merit was given. Particularly good also were Cattleya Trianae Uplands variety, Cypripedium Colossus (C. villosum giganteum × C. Salieri aureum), Odontoglossum Hallio-crispum, O. wilckeanum, O. crispum Dora, and Lælia jongheana alba. Bronze Banksian medal.

Messrs. B. S. Williams and Son, Upper Holloway, N., exhibited a group of miscellaneous Orchids and stove plants. Among the Orchids were noticeable Cattleya Mendelii, C. intermedia, Odontoglossum triumphans, O. wilckeanum, O. Coradinei, Cypripedium massianum, Ada anrantia, &c. Amaryllis Crispin King, A. Meteor, and A. Holloway Belle were also included in the group.

H. T. Pitt, Esq., Stamford Hill (gardener, Mr. F. W. Thurgood), exhibited a bright and varied collection. Odontoglossums chiefly filled the back of the arrangement, while towards the front were to be seen a variety of other choice Orchids, Cattleya Schroederae, Miltonias, Vandas, Cypripedium George Llewellyn, &c. Silver Flora medal.

Messrs. Hugh Low and Co., Bush Hill Park, Enfield, exhibited Cattleya Schroederae Phyllis, C. S. aurantiaca, C. Trianae fulgens striata, C. Schroederae alba Low's variety, and Saccobolium ampullaceum, bearing an almost erect small raceme of rosy red flowers.

H. F. Simonds, Esq., Woodthorpe, Beckenham (gardener, Mr. G. E. Day), showed a plant of Cypripedium St. Legereanum flowering for the second successive year.

J. Gurney Fowler, Esq., South Woodford (gardener, Mr. J. Davis), showed some plants of Dendrobium devonianum that were smothered in flowers the whole length of the pendent pseudo-bulbs. Silver Banksian medal.

Walter Cobb, Esq., sent Cypripedium Beatrice (C. bellatulum × C. Gowerii magnificum), Odontoglossum triumphans var. Colbie, Sophro-Cattleya marriottiana (Sophronitis grandiflora × Cattleya aurea).

A. S. Cook, Esq., Tankerville, Kingston Hill (gardener, Mr. W. Buckell), exhibited a plant of Lycaste Skinneri bearing eight flowers.

Captain Holford, C.I.E., Westonbirt (Orchid grower, Mr. Alexander), showed Odontoglossum elegans, Westonbirt variety.

Thomas Carruthers, Esq., Gaskmore, Reigate (gardener, Mr. Collip), sent Odontoglossum wilckeanum Carruthersii.

Sir Frederic Wigan, Bart., Clare Lawn, East Sheen (Orchid grower, Mr. W. H. Young), sent cut blooms of Miltonia vexillaria Memoria J. D. Owen, and Miltonia Eleuana.

F. Wellesley, Esq., Westfield, Woking, Surrey (gardener, Mr. J. Gilbert), showed Cypripedium Chapmani, Westfield variety, and Cypripedium W. E. Dickson (rotchshieldianum ×).

Baron Schroeder, The Dell, Egham (gardener, Mr. H. Ballantine), displayed some beautiful cut flowers of Orchids, including Odontoglossum crispum Rex, O. leeanum, Lælia Edissa, and others. Silver Banksian medal.

Odontoglossum × crawshayanum Theodora (O. Halli × O. harryanum) was shown by de B. Crawshaw, Esq., Sevenoaks.

ORCHID AWARDS.

A first-class certificate was given to:—*Odontoglossum Adriane Memoria Victoria Regina*.—This is a beautiful flower of medium size and exquisitely marked.

The ground colour is a creamy white, and the petals are extensively spotted with chocolate-red. The sepals are even more heavily blotched with the same colour. A yellow tinge is noticeable towards the top of the sepals. The markings on the lip are a paler red. Exhibited by Baron Schroeder, The Dell, Egham (gardener, Mr. H. Ballantine).

The following obtained awards of merit:—

Lælio-Cattleya Dora.—This new Orchid—a secondary hybrid—whose parents are Cattleya Schroederae and L.-C. Phoebe, is decidedly a beautiful flower. The petals are of a delicate peach colour and light apricot, the sepals having more of the latter and less of the former colouring. The base of the lip is a rich crimson-purple, the interior of the throat yellow. Exhibited by Messrs. Charlesworth and Co., Heaton, Bradford, Yorks.

Zygopetalum pierenoides Cecil Rhodes.—This is a striking flower, the lip being of a rich violet-purple veined with a darker shade. The sepals and petals are heavily marked with chocolate-brown upon a green ground. Exhibited by H. T. Pitt, Esq., Stamford Hill, N.

Lælia flavina.—Lælia pumila and L. flava are the parents of this new hybrid. The prevailing colour is a beautiful and delicate lemon-yellow, petals and sepals are practically of the same colour, the throat of the lip is a much deeper yellow. Exhibited by Messrs. James Veitch and Sons, Limited, Chelsea.

Masdevallia Circe.—It is not often that new Masdevallias are before the Orchid Committee, but on Tuesday last an award of merit was given to the one under notice. The prevailing colour may perhaps be best described as orange-brown, spotted upon a rather lighter ground, and marked with thin longitudinal lines of purple. From Messrs. James Veitch and Sons, Limited, Chelsea.

FRUIT COMMITTEE.

Present: Messrs. George Bunyard (chairman), Joseph Cheal, Henry Esling, S. Mortimer, Alexander Dean, Horace J. Wright, William Pope, George Kell, J. Jacques, C. G. Nix, James Smith, F. L. Lane, J. Willard, George Wythes, James H. Veitch, H. Somers Rivers, and H. Balderson.

A. Hargreave Brown, Esq., M.P., Broome Hall, Dorking, was awarded a silver Banksian medal for a box of excellent Royal Sovereign Strawberries.

Apple Edward VII. was shown by Mr. H. Rowe, Barbourne Nurseries, Worcester.

A patent weed extractor was shown by Mr. J. H. Beach, The Gardens, Hazels, near Gravesend, the patentee. The object of this new garden tool is to make easy the uprooting of Plantains, Daisies, Pandelions, &c., from lawns. This instrument has three prongs, each of which is again divided, enabling the weeds to be effectually removed. Stopping is altogether avoided, for the extractor has a long handle, and is worked as easily as a rake.

FLORAL COMMITTEE.

Present: Mr. George Paul (chairman), and Messrs. C. T. Drury, G. Nicholson, C. E. Pearson, R. C. Notcutt, Rev. F. Page Roberts, John Jennings, W. Howe, J. W. Barr, C. Dixon, R. W. Wallace, C. Jefferies, H. J. Cuthbush, J. A. Nix, H. J. Jones, W. Cuthbertson, W. P. Thomson, E. H. Jenkins, R. Wilson Ker, Harry Turner, and C. E. Shea.

Messrs. R. Wallace and Co., Colchester, showed many rare and beautiful plants, notably Tulipa Lownei with miniature rose and white flowers; T. saxatilis, T. Greigi, T. triphylla, with golden flowers slightly streaked with a dark shade. Some pretty fritillaries comprised F. pallidiflora, a greenish yellow kind with almost square shoulders; F. pudica, &c. Anemones, too, were very beautiful, as A. fulgens, A. coronaria Syriaca, the scarlet flowers having a pure white ring, reminding one of A. fulgens annulata; A. Pulsatilla, very fine and with many flowers. Such Irises, too, as I. orchoides, I. o. cerulea, and I. willmottiana. Daffodils in pots and other more frequently seen things made up one of the best displays from this firm this season. Bronze Flora medal.

Messrs. W. Cuthbush and Sons, Highgate, had a fine group of forced shrubs, Lilacs, Azaleas of several sections, the best being perhaps the double Ghent varieties, with Magnolia soulangeana very well flowered, Spiraea confusa, Prunus triloba, Laburnums, Cytisus precox, &c. Silver Banksian medal.

Messrs. Wm Paul and Son, Waltham Cross, had a good display of forced Roses, chiefly of the hybrid Tea section. We noted fine flowers of Boadicea, of which there were, perhaps, a dozen plants, Jean Ducher, the richly-coloured Liberty, Alexandra, Marie Louise, and other beautiful sorts. Silver Flora medal.

Messrs. B. S. Williams, Holloway, filled one corner with handsome and well-grown Palms, such as Kentias, Phoenix, Latanias, and Arcas; they also contributed a fine collection of the choice Narcissi, the flowers being good and fresh.

Mr. H. J. Jones contributed an extensive bank of the choicer Daffodils and a splendid collection of Tulips. In the former, such as Victoria, Excelsior, a rich golden self; Empress, Emperor, Barri conspicuus, and Mrs. Thompson. Sir Watkin was well shown, while in the Tulips such as Thos. Moore, Grace Darling, Proserpine, and other good sorts.

Messrs. Hugh Low and Co., Enfield, set up a group in which Pyrus Malus Schiedackeri was prominent with pink and white trusses a foot long, Hydrangea hortensis cerulea, Magnolia stellata, Crimson Rambler Rose, Lilacs, &c. Messrs. Low also staged a well-grown lot of Schizanthus Wisetonensis in full bloom that attracted a great deal of attention. Bronze Flora medal.

From Feltham, Messrs. Ware, Limited, sent a nice lot of hardy things, in which a huge mass of the lovely shortia galacifolia formed a splendid centre, the pearly-white flowers and crimsoned leafage making a fine contrast. Other interesting things were Iris tuberosa, green, and black; Adonis amurensis plena, A. vernalis, Silene virginica, Ramondia Natalie, double white Arabis, many pretty Primulas, and others of equal interest and beauty. Bronze Banksian medal.

Mr. J. P. Kendall, Ottery St. Mary, Devon, had a fine vase of his Narcissi King Alfred, and a new one, Sir Walter Drake, that we shall refer to again in the novelties.

THE GARDEN

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[APRIL 19, 1902

THE BETTER ROCK GARDEN

THOSE who have fairly spacious rock gardens and wish them to be beautiful places and not merely the receptacles of a quantity of different plants, can only secure such a result

by putting upon themselves severe restraint as to the number of kinds to be used at a time. In gardening as in painting no picture can be beautiful whose composition is crowded and confused. There are various considerations that influence the choice of the plants that the rock planter will put together, but we think that the following suggestions would be worthy of consideration. First, to determine which are the plants that give us the truest pleasure. Then to consider which of these will group best together and flower at the same time; for, supposing four or five favourite kinds of plants to be grouped and partly intergrouped, it is a great advantage to let them be those that will bloom together and make one complete picture, and to have the intermediate sets of groups to bloom later in their turn. This is a much more pictorial arrangement than to have the plants flowering in scattered irrelevant patches quite unrelated to each other.

Suppose, therefore, that a spur of rock garden is crowned with bushes of *Andromeda floribunda*, and that steep rocks below it are clothed with *Aubrietia* and *Arabis*, and that at their foot in cool peaty ground there is a generous planting of *Primula denticulata*. Here are four capital things of early April, all in full flower together, making one complete picture, and these four are quite enough. The colouring is of the simplest possible and delightfully harmonious, and the whole thing is so good a picture that one dwells upon it, and comes back and back to it to enjoy its beauty in a way that one never does to a more mixed planting of individual objects.

It is, of course, more easy to do in large spaces, but even in small ones the same thing may be done in square inches instead of square feet by choosing plants of smaller dimensions.

Such an arrangement for the pictorial part of a garden by no means precludes the enjoyment of individual plants, but we think it is wiser to have these in a separate place in a series of rectangular raised beds, where each plant may occupy its own pocket, and be as easily visible and accessible as a book on a shelf or a specimen in an economic museum. Such raised beds as are in Messrs. Fröbels'

delightful nursery at Zurich could hardly be improved upon. They are perhaps 6 feet wide at the bottom and 15 feet long. They are steeply rock built, and accommodate a large quantity of plants. If the beds are placed east and west as to their length it will give each a shady and a sunny side; a ridge of small shrubs at the top would give more shade on the north side. Such beds also afford the best opportunity of suiting plants with special soils, for one may be built of limestone, another of granite, another of sandstone, and so on, so that plants from all kinds of geological formations would find themselves at home. The plants in these rock beds would be grown distinctly as samples and labelled, then those that were the best liked and that showed the most aptitude for making good combinations for the rock garden could be increased and brought into the better use.

Labels should never be seen in the beautiful rock garden; they are destructive of all pictorial effect and damping to the sentiment of the truest enjoyment of plant beauty. You want your rock plant to say to you in cheerful sympathy: "I am one of the loveliest of the plants that God has given you for purest pleasure and for your bettering in gladness and thankfulness;" and not merely to inform you with cold official austerity, "I am *Aubrietia deltoidea* (De Candolle)."

THE USE OF WEEPING TREES.

It is not at all easy to define special uses for trees of weeping habit, but it is safe to use them nearly singly and not in immediate connexion with trees of quite upright form. The point in the weeping tree is a certain grace of drooping line, such as one enjoys in the drooping racemes of many of the papilionaceous flowers, such as *Wistaria*, *Laburnum*, and *Robinia*. Nothing is gained by accentuating the peculiarity by a direct association with trees of an opposite way of growth. It is better rather to place the weeping trees near rounded masses of shrub and small tree—for example, a Weeping Birch would group well with a clump of *Rhododendrons*.

Near water weeping trees seem to be specially effective. An instance of this is shown in the familiar Weeping Willow, but one at a time seems as much as is wanted.

As a general rule, we strongly advocate

planting in groups, whether in the case of trees, shrubs, or flowering plants, but the weeping trees are less suited for grouping than any others. One Weeping Willow is all very well, but a whole grove of them would be monotonous and tiresome.

The habit of some of the weeping trees can be directly turned to account in the making of arbours and pergolas, for by planting the large-leaved Weeping Elm or the Weeping Ash at the back and on each side in the case of an arbour, or alternately on each side of the walk for a pergola, a living shelter may be made in a very few years. The trees in this case are standards pollarded at about 8 feet from the ground, the form in which they are generally sent out from the nursery.

RIVIERA NOTES.

SUMMER is on us now and winter visitors and winter flowers a thing of the past. The other day I saw a striking group of *standard* *Hydrangeas*, quite a novelty in my eyes, and all the more striking as the heads of flowers were of the most lovely cerulean blue. On examination it proved to be *H. cyanoclada* and not the typical *H. hortensis*, which never achieves so perfect a shade of blue, and which does not lend itself to making standards such as those I saw. They were a striking instance of clever French gardening, and most beautiful.

In the matter of climbing Roses there are two gains not to be omitted on this coast. That delightful hybrid Rose *Anemone* and the brilliant *Dr. Ronges*, which both flower early with the *Banksian* and *R. Fortunei* Roses, affording a splendid contrast of colour hitherto unattainable so early. The lovely Rose du Barri colour of the very large single Rose *Anemone* contrasts especially with its congener *Rosa sinica*, while the brilliant light red of *Dr. Ronges* is especially welcome amongst the creamy white and yellow sprays of the *Banksian* Roses now in fullest beauty. Tree *Pæonies* are so huge and so gorgeous that one regrets more than ever that they are always checked and stunted by an English spring, which wakes them up too early, and then punishes them for responding so quickly. A glass-roofed shed in some sheltered and partially shaded situation might perhaps give them the protection they need, but anything like close heat or over shelter must be avoided. *Xanthoceras sorbifolia* is a pretty dwarf flowering shrub on this coast, and cannot be persuaded to grow with the vigour that it attains to in England, but on the other hand it smothers itself in flowers. The lovely pink Japanese Cherry has had a short life this season; like many things it has rushed out and rushed over only too quickly. At this season the yard-long trails of *Lotus peliorhynchus* carpet the sunny banks with crimson flowers and silvery leaves; the hand-

some purple heads of *Hebeclinium ianthinum* rise boldly over the tangle of *Verbenas* and *Gazanias*, while the first Orange blossoms star the foliage above, a warning that ere long the northerner must seek for summer quarters where such delights are more lasting and not so fierce, and where a longer if less gorgeous display of colour is afforded during the summer months.

E. W. WOODALL.

NOTES OF THE WEEK.

FORTHCOMING EVENTS.

April 22.—Royal Horticultural Society's Committee meet, and National Auricula Society's Exhibition, at the Drill Hall, Buckingham Gate; special prizes for Daffodils offered.

April 23.—Royal Horticultural Society's Examination in Horticulture.

April 24, 25.—Annual Exhibition of the Midland Daffodil Society at Birmingham.

April 25.—Darlington Horticultural Society's Spring Show.

May 3.—Meetings of French and German Horticultural Societies of London.

May 6.—Royal Horticultural Society's Committee meet at Drill Hall, Buckingham Gate.

May 7.—Royal Caledonian Horticultural Society's Spring Show at Edinburgh (two days).

May 8.—Royal Gardeners' Orphan Fund Annual Dinner at Hotel Cecil.

Examination in horticulture.—The Royal Horticultural Society's examination will take place on Wednesday next at various centres throughout Great Britain. Intending candidates are requested to forward their entries at once to the secretary, Royal Horticultural Society, 117, Victoria Street, London, S.W.

A useful early Lettuce (Golden Queen).—After such a severe spell of weather in most parts of the kingdom I fear there will be very few spring Lettuces from the open ground, and even those in frames have suffered badly. By sowing the useful small Golden Queen in heat now, and then pricking out the plants on a warm bed in a frame, good produce may be had during a period of about twelve weeks from the time of sowing. Another plan is to plant in boxes and grow in houses or to sow in frames and put the thinnings into boxes. These form a succession, as those left in the frame mature quickly. Golden Queen might with advantage have been named Golden Gem, as, though small, it is a gem among the Cabbage Lettuces, and most valuable for its quick growth and bright colour. It is much liked in the salad bowl. I do not know any variety more valuable to sow at this season either in frames, boxes, or on a warm border early in March grown as a first supply from the open. It may be had earlier than others, but it is well worth sowing under glass, as by so doing there is great saving of time: quite a small quantity, say, a box of seed sown now will give nice heads in May.—G. W. S.

Mole crickets.—Your correspondent "E. B. C.," in your issue of April 5, asks some questions about mole crickets which are destroying the grass on lawns in his neighbourhood. Is he quite sure that the insect in question is the mole cricket? He speaks of it as a beetle, which it certainly is not. That, however, to anyone who is not an entomologist is a very small point. He speaks of the land being very poor, which does not sound like the soil the mole cricket is supposed to prefer, as they generally infest damp, badly-drained land, the banks of streams, ditches, &c., and are by no means common nowadays. If "E. B. C." would kindly send a specimen I could soon make quite certain. If, however, he knows the insect is what it is said to be he should try to trap them by laying fresh turves on the ground, or grass, and keep them well watered. They are said to creep under them at night, and if the turf is turned over in the morning they may easily be caught. If their runs can be traced boiling water should be poured over

them. This, however, would injure the grass. I do not imagine that watering with any insecticide would be of any use, as it would be so difficult to make it reach them.—G. S. S.

Special prizes for Daffodils.—At the Royal Horticultural Society's meeting, to be held on Tuesday next in the Drill Hall, Buckingham Gate, Westminster, special prizes will be offered for Daffodils, open to amateurs and gentlemen's gardeners only. First prize, a £7.5s. silver cup, presented to the society by Messrs. Barr and Sons; second prize, R.H.S. silver Flora medal. Group of Daffodil blossoms grown entirely outdoors (Polyanthus varieties excluded) must include some of each section—Magni, Medii, and Parvi-Coronati; must contain at least thirty varieties distinct, at least three blooms of each must be shown. Not more than nine blooms of any one variety may be put up. To be staged in bottles, vases, or tubes not exceeding 3 inches in diameter at the top (inside measurement), and all the stems must touch the water. Quality of flower will count more than quantity, and correct naming and tasteful arrangement will be duly considered. Any hardy foliage may be used, Daffodil or otherwise. No prize will be awarded unless there are three competitors at least. Entries should be addressed to the Secretary, Royal Horticultural Society, 117, Victoria Street, London, S.W.

Exhibition of flower pictures.—An exhibition well worth a visit by those interested in flower studies is now open at Walker's Gallery, 118, New Bond Street. The pictures have been painted by Mrs. Philip Hensley (Miss Marie Low), and comprise a variety of subjects for the most part delightfully treated. We were charmed with "Double Blossom Cherry," a clever and beautiful study, "Penzance Briar Roses," and the series of Violet pictures, Marie Louise and others. It is impossible to mention everyone of the sixty-eight pictures or to individualise in a collection so full of interesting representations, as want of space forbids. An hour spent here by the flower-lover will we are sure prove an enjoyable one. Mrs. Hensley has also a collection of enamels on silver, designed and worked by herself, and these form a feature of much interest.

Hippeastrums at Chelsea.—At this season of the year the Hippeastrums, more familiarly known perhaps as Amaryllis, in the Chelsea nursery of Messrs. James Veitch and Sons, Limited, are always worth a visit, and never, in the opinion of Mr. John Heal, the raiser of the numerous and beautiful hybrids that Messrs. Veitch have sent out, have they been better than this year. The central bed of the large span-roofed house in which they are arranged holds 1,000 plants placed closely together. Each plant on an average is bearing three flowers, and we may safely say that of the 3,000 flowers there are at present fully 2,000 at their best, the remainder being not yet open. It is remarkable also in what a number of instances splendid blooms are produced by quite small bulbs, a success that is undoubtedly to be attributed to the cultural methods practised. One notable item pointed out by Mr. Heal may be worthy of repetition. In previous years the pots in which the Hippeastrums are grown have been plunged in tan: last year for the first time sawdust was made use of as a plunging material, although only a few dozen plants were so treated. That all were not plunged in sawdust is fortunate, for the few that were have proved almost complete failures. Messrs. Veitch are doing much towards popularising the Hippeastrum by endeavouring to raise varieties that are quite distinct in colour from those already existing. One of the drawbacks of this plant has been the monotony of colour shades, but a glance through Messrs. Veitch's 1902 collection will discover not only a good variety of colours and markings but some shades that are quite new to the Hippeastrum. Yellow is a colour that Mr. Heal is now striving to infuse, and in some of the latest hybrids the lighter shades of this colour are prominent. It would be a long list that contained all the meritorious varieties in so extensive and varied a collection, but the following are some of the most noteworthy: Jadera, of beautiful form, vermilion,

with white edge; Adula, a choice flower, white, streaked with rosy scarlet; Lady Buller, large, distinct, white, faintly tinged with sulphur, lightly streaked with rosy scarlet; Anreole, one of the largest flowers in the collection, rich red-scarlet; Rhodesia, a faint sulphur ground, marked with vermilion, of splendid form; Conqueror, orange-scarlet, white centre; Sybaris, almost pure white, faintly streaked red; Orneus, intense red-scarlet; Uitlander, of a curious faint khaki-green, marked with light red; Eclipse, of excellent form, bright red, marked with white; Sunium, perhaps the deepest coloured of all, rich red-crimson; Coriolanus may be said to be the finest flower in Messrs. Veitch's collection, the upper petal measured 4 inches across, and the colour is a rich scarlet, more intense in the centre; Topaz, a pretty flower, of fine shape, bright red, having a white band down each petal, and white centre.

Rose Golden Gate (Tea-scented).—This is a variety of great merit, and one that is steadily gaining in popularity among exhibitors. Its flowers are exquisitely coloured and of beautiful form. Its quality is proved by the frequent appearance in prize boxes, the flowers being somewhat inclined to droop, or, in other words, are "weak at the neck." The best way to grow the variety is on the standard or half-standard briars. The colour is not golden, as one might suppose, but it takes its somewhat misleading name from the Golden Gate Harbour, San Francisco, being one of the few good varieties our American friends have raised. The flowers are of a lovely creamy-white colour, with a soft tint of yellow at the base, but it is the pale pink flush at the edges of the petals that seems to give the flower such a distinct beauty. The buds are long and pointed, and the half-open flowers shaped like an egg. When grown as a pot Rose, and it is peculiarly fitted for this purpose, the beautiful tints are much enhanced, and the fragrance, too, is most refreshing, not so powerful as *Devoniensis*, but yet more so than many of the Teas.—P.

Mice and paraffin.—As the soaking of Sweet Peas before sowing in paraffin is still recommended as a preventive against the attacks of mice it may be as well to caution readers not to put any faith in the recipe. I have found from experience that the animals will take the Peas just as readily with paraffin as without.—E. B. C.

Vegetables at the Drill Hall.—I note with satisfaction Mr. E. Beckett's approval of my suggestion that there should be annually held at the Drill Hall one special exhibition of vegetables. I have no doubt there are many persons interested in vegetables who would equally favour the proposal. There does seem to be something anomalous when we see the Drill Hall handed over on several occasions during the year to Auricula, Tulip, Carnation, and Dahlia societies, all of trivial importance in horticulture as compared with vegetables, yet nothing whatever is done in the way of presenting vegetables to the Fellows of the society in a select or exhibition form. Were vegetable admirers to form a vegetable encouragement society and display the energy and push which the executives of the societies named do they could very likely obtain the Drill Hall for an annual exhibition. But the formation of special societies has gone far enough, and no sensible person wants to extend them. The formation of a special one for Sweet Peas gave the *coup de grace* to all other subjects. I have no wish to go further, but the Royal Horticultural Society should do for vegetables what any special society established to encourage their culture would do. It does an immense deal for flowers, including Orchids and for trees and shrubs, and it recognises the great importance of fruit yearly by its Crystal Palace show. Vegetables, I suppose, are too vulgar for its lofty tastes. Does that arise from the fact that, whilst all other things are represented on the council, no one at all represents vegetables? If Mr. Beckett is agreed, I will cheerfully join with him in promoting a memorial from numerous persons to the council asking that one special vegetable exhibition be held in the Drill Hall each autumn.—ALEX. DEAN.

Clivia miniata.—Every spring the showy flowers of this *Clivia*, which by the way is far more generally known as *Imantophyllum miniatum*, form a conspicuous feature in many gardens, and also at the various exhibitions held at this season. The large massive heads of the better kinds, with their broad flower segments and in many cases bright colours, show the great improvement that has been effected by judicious crossing, but on this point one is apt to ask the question whether far too many names are not bestowed. I venture to think that without labels the distinction between many of them would be difficult to define. Again, those bearing the same name are not all of equal merit, this being I think in some instances owing to the fact that they have been raised from seed, and thus show the normal amount of variation. As this mode of propagation is simple, and increase by division very slow, it is easy to understand that a great many are grown from seed. In reference to many forms being a good deal alike, exception must be taken with the variety *citrina*, which has for some years past been much admired at Kew. The colour of its flowers is indicated by the specific name, hence it is totally distinct from any of the others, and in addition it possesses a well shaped cluster, with good broad segments.—T.

Erica persoluta alba.—Many of the South African Heaths are so beautiful that we should doubtless see them oftener if they were more amenable to cultivation. There are, however, a few to which this last remark does not apply, one of them being *Erica persoluta alba*, which is just now at its best. It has a dense twiggy style of growth, and is so floriferous that every shoot however small is profusely studded with tiny bell-shaped pure white blossoms. It remains fresh a considerable time, and for the decoration of the greenhouse, or for use in a cut state for button-holes, &c., it is very useful. This Heath is one of the limited number brought into Covent Garden Market, for some growers still make a speciality of these charming plants. Mr. Sweet, of Whetstone, is one of the most successful cultivators of greenhouse Heaths, nearly all of them being grown in 4½-inch or 5-inch pots. Some examples of *E. persoluta alba* treated in this way are models of cultural skill. Out of the vast number of different Heaths, those most generally grown are *E. caffra*, *gracilis*, and *hyemalis* for autumn and winter blooming. After them come *E. melanthera* and *willmoreana*, succeeded by *E. persoluta alba*, *Cavendishi*, *candidissima*, *hybrida*, *spenceriana*, and the several forms of that delightful small growing species—*E. ventricosa*.—H. P.

Apple and Pear hybrid.—Assuming that the fruit figured on page 199 of THE GARDEN was the product of an actual cross between Apple and Pear—and it is granting a big “if”—the product in any case, as presented to the fruit committee on March 11, was a very indifferent Apple, without the least taste of Pear or its flavour in it. No sample of leafage was sent with the fruits, that being, of course, out of the question, but many Apples have long leafage that bears some resemblance to that of the Pear. Really the fruits very closely resembled in shape those of the old Lemon Pippin, the knob on the stem end of the fruit of that variety being in this case somewhat elongated. If it be possible to effect a fertile cross between Apple and Pear it is strange we have not heard of such long since. The raiser of this novelty should send a graft or two at once to Chiswick, where it could be worked on to a stock, and its hybrid nature, if it is such, be thoroughly tested. For how many things do we want a real experimental garden?—A. D.

Begonia Gloire de Lorraine as a basket plant.—Many growers of this fine autumn and winter-blooming *Begonia* will now be considering how many plants to grow, and also how they will grow them. There may be some who have never grown it except in pots, but it is for hanging baskets and drooping over shelves that I wish to recommend it. If growers will but look at the manner of growth of the long slender shoots it will be readily seen that it would be equally as beautiful in either of these positions as grown in the ordinary way. In winter we have not many

brightly-coloured plants suited for draping purposes, yet nothing can be more lovely for such work than a well-grown plant of this *Begonia*. In America this *Begonia* is largely grown for this purpose and for hanging baskets, and there it has a ready sale for house decoration. Last autumn I saw a number of plants in Messrs. Sutton's nursery at Reading hanging over the shelf, and a prettier sight could hardly be wished for. The Turnford Hall variety is a most promising white with a pink tint.—J. CROOK.

Mr. Nelson. for some years with the Marquis of Lansdowne at Bowood, and latterly at the Marquis's Highland estate, left Tullyallan some time ago when it passed by sale from the Lansdowne family. I am pleased to hear he has quite recently taken over the charge of Lord Inverclyde's beautiful gardens at Castle Wemyss, near Greenock. Both Lord and Lady Inverclyde are said to be devoted to gardening and estate improvements generally.—R. P. B.

A good winter Cucumber.—I have found Cucumber All the Year Round far in advance of any other for winter use. Although its fruits are not of so good an appearance as other well-known kinds, it makes good this deficiency by its robust constitution and free-cropping qualities, a fact which should be considered when Cucumbers have to be supplied during the winter months. A number of plants that were planted the first week in October fruited well at Christmas, and we have been regularly cutting fruits from them ever since. With the lengthening days and more sunshine the plants are growing freely, and there will be no difficulty in keeping up a constant supply until spring-sown plants are in bearing. Owing to this Cucumber being so free one may be tempted to overcrop in its early stages of growth, but bearing in mind that the weather in January and February is often very adverse to the culture of plants under glass, discretion should be exercised in thinning the fruits so as to leave no more than are absolutely required.—E. HARRISS.

Begonia corallina.—This is one of the most handsome of the shrubby *Begonias*, and perhaps the most seldom seen. This is to be deplored, as it makes a splendid plant for growing against a pillar or over the roof of a corridor, where its true character is seen to advantage. If planted out in good rich soil the shoots will reach a length of 10 feet or 12 feet. It produces large pendent racemes of bright red flowers, which are conspicuously attractive as hanging from the roof. This *Begonia* may also be grown successfully in pots, and one advantage in this respect is that when in flower it may be given prominence in the home. The flowering season is a long one, often lasting through late winter and spring.—E. HARRISS.

Primula cashmeriana purpurea.—In the somewhat holding soil of Messrs. Dobbie and Co.'s nursery at mild and moist Rothesay could be seen during the third week in March large flowering clumps of this fine variety, which had thrown up bold and striking trusses of large deep-coloured flowers. It was perfectly at home, braving the winter without protection, and apparently revelling in the moisture so prevalent in this district of Scotland. Looking upon these clumps one could realise what a superb early spring-flowering hardy plant this is when growing amid conditions which suit it. It is also an excellent subject for pot culture.—R. D.

Presentation to a gardener.—On the recent occasion of Mr. James McIlwrick retiring from the position of head gardener to Mr. V. B. and Lady Emily Van de Weyer, New Lodge, Windsor Forest, an illuminated address, together with a purse of £25, was presented to him, which had been subscribed for by gardeners in the district and others. The presentation took place at a complimentary dinner held at Windsor, at which Mr. Harry Turner, of the Royal Nurseries, Slough, took the chair. The address set forth the regret with which the subscribers had heard that Mr. McIlwrick was leaving New Lodge after a faithful service as head gardener for twenty-eight years, and bore testimony to the service he had rendered to horticulture by

encouraging rural district shows, by acting as judge, and in other ways. A very agreeable evening was spent by those taking part in the function.

Winter Pears.—Mr. Burrell's remarks (page 206) on these fruits, as affected by different soils and situations, are interesting, but I think he omits one important point, and that is *culture*. My Pear trees have had a large quantity of wood ashes and lime rubble given them the last year or two, and I think these had a very good effect as regards flavour. Manure alone is not sufficient, this will increase size, but also tends, unless carefully regulated, to coarseness in the fruit. I had a marked example of this in some fruit of Duchesse d'Angoulême. In the season of 1900 the tree bore a heavy crop, and the flavour was as good as French Duchess Pears, but in 1901 the tree carried only six fruits; these were very large but worthless, they never ripened properly, remaining hard and ultimately went rotten. Gansel's Bergamot was just the same in 1901, very few fruits, and these never ripened properly; the summers of 1900 and 1901 were very much alike here, both very dry, so that could not be the explanation. Glou Morceau is one of my favourites. My only complaint about it is that it goes rotten if kept, whilst Beurré Bachelier with us is equal to it, very similar in flavour, and lasts about a month longer, until the end of January. The aspect of the tree also affects the flavour. Easter Beurré from a pyramid was first-rate, but from a south wall the fruit was “mealy,” and much inferior to the smaller fruit from the pyramid. My Pears are kept in a fruit room made of wood and thatched with Heather.—B. ADDY, Pembury Court, Kent.

Grafted Tree Pæonies.—While travelling in the United States I occasionally noticed a double and single flower on Tree Pæony bushes, and on examination found the single purple blossom came from the stock on which the double form had been grafted. I also saw that the fight between the stock and the graft would terminate in favour of the stock if left alone, and owing to an American nurseryman asking me to enquire why no large plants of Tree Pæonies could now be had in Japan as in former times, my attention was specially directed to the Tree Pæony. I was told that owing to the great demand growers had decided to limit the supply of plants to not more than three buds to a plant, and they advised, for the first season, to reduce the buds to one, and to secure one good flower instead of three middling blossoms. I then enquired regarding the stock used for grafting, and was told it was the single purple-flowered variety I had seen in the United States. Since then, when I have seen a Japanese-made Tree Pæony I have advised the owner to watch the stock, and remove all suckers and side shoots in the interest of the graft. While in Australia I met two German botanists travelling at the expense of their Government to study the botany, more especially of Australasia, but not exclusively, as they had spent some time in South Africa. In the course of a varied conversation Pæonies were referred to, and I expressed a surprise at the wild form of the Tree Pæony being unknown in Europe, when one of the gentlemen informed me that quite recently a French priest had settled the question. I am at present in correspondence with friends in Japan to know if the stock used for grafting is Japanese or Chinese.—PETER BARR, V.M.H., Cape Town.

Sweet-scented greenhouse Rhododendrons.—There is no question that many plants owe a good deal of their popularity to the delicious fragrance of their flowers, hence the varieties of Rhododendrons that are characterised by a pleasing perfume in addition to their showy flowers, are, when at their best, sure to gain many admirers. The numerous members of the tube-flowered or Japanese race are almost scentless, and most of the sweet-scented greenhouse varieties owe that desirable feature to the crossing and intercrossing with Rhododendron Edgeworthi, a native of the Himalayas, from where it was introduced in 1851. This species is characterised by a somewhat straggling habit of growth, and the dense woolly tomentum with which the undersides

of the leaves and the young shoots are covered. The flowers are large and pure white, except for a blotch of lemon at the base of the upper segments, while they are powerfully yet deliciously scented. One of the earliest hybrids of *R. Edgeworthi* was *Princess Alice*, raised about forty years ago between the above species and the small growing *R. ciliatum*. The best of these scented varieties of *Rhododendrons* are: *Princess Alice*, *fragrantissimum*, *Countess of Derby*, *Mrs. James Shawe*, *Duchess of Sutherland*, *Lady Skelmersdale*, *Lady Alice Fitzwilliam*, and *lesterianum*. In all of these the blossoms are white, tinged in some cases with pink. This is more pronounced in the bud state than it is after expansion. The *Rhododendrons* of this section need only protection from frost during the winter, so they may be stood out of doors throughout the summer; indeed, the buds set better in the open air than under glass, and also are not so liable to be attacked by thrips.—H. P.

Cyrtanthus Macowani.—In an ordinary greenhouse a group of this *Cyrtanthus* has for the last two months been a pleasing feature, and many of the bulbs are now pushing up secondary spikes. The genus *Cyrtanthus* is remarkable for the great dissimilarity that exists among its different species, thus *Cyrtanthus obliquus* forms a large bulb, which produces a sturdy spike 2 feet high or more, terminated by an umbel of drooping flowers, yellow, red, and green in colour, about 3 inches long, and of a waxy nature. *Cyrtanthus sanguineus*, known also as *Gastronema sanguinea*, is more in the way of a miniature *Vallota*, while there is a small-growing group characterised by bulbs not much larger than *Snowdrops*, grassy leaves, and slender curved flowers. To this last-named section *C. Macowani* belongs. From a bulb of the size just mentioned it pushes up a spike from 12 inches to 18 inches high, which is terminated by a cluster of flowers rarely exceeding nine in number. They are of tubular shape, somewhat curved, about 1½ inches long, and half an inch across the expanded mouth, in colour light scarlet, which pales somewhat after expansion. The dark green leaves are about 1 foot long, and from a quarter to one-third of an inch in width. There are several forms with coloured blooms, but with me at least *C. Macowani* is the best. Two suitable companions for it are *C. Mackenii*, pure white; and *C. lutescens*, yellow. From their slender nature these *Cyrtanthi* are seen to the best advantage when grouped in pots or deep pans, but if grown singly pots 4 inches in diameter are sufficient. They quickly increase by division, and if the seeds are sown as soon as ripe they flower in about eighteen months from the time of sowing. The cultural requirements of these plants are but simple, for they need much the same treatment as a *Pelargonium*. Potting or dividing should be carried out (unless the plants are bearing seed-pods) as soon as the flowers are past, a suitable compost being two-thirds loam to one-third well-decayed manure and leaf-mould, with a sprinkling of sand. They must not be dried off at any time, though in winter very little water will be required. The flowering season is not limited to the early months of the year, for the plants bloom more or less throughout the summer.—T.

NOTES FROM SCOTLAND.

THERE has been not a little damage to vegetation as the result of the wintry weather in February. Nurserymen have suffered to some extent where stock was exposed, and market gardeners have lost heavily in *Wallflowers*, *Violets*, and green crops. Gardeners, too, have their losses to regret, though thanks to the abnormally hot and dry summer of last year the less hardy plants have come through the ordeal comparatively well. For instance, *Iris stylosa* has been yielding a supply of flowers since the last days of January, and on April 1 I counted ten flowers on one plant. In England I dare say there is nothing remarkable in that, but when one has to wait many years for its flowering one feels the fact to be worth recording. Unfortunately, once expanded, the flowers soon decay, but while

open they emit a very delicious aromatic perfume. Another plant that has benefited by the past hot summer is

BENTHAMIA FRAGIFERA,

not one specimen having been damaged, a rare thing after a spell of hard frost. But more interesting still on one bush is quite a number of flower-buds, some of which, unfortunately, have been killed, but others are perfect, and one may hope to see them develop into bloom. The

WHITE VARIETY OF SCILLA PRÆCOX

is rather disappointing. The plants seem incapable of gathering vigour, and the stems fail to lengthen out as is the manner of the type.

Another *Scilla* at present in flower is even more disappointing; it professed to be *bifolia rosea* and is a mere dirty lilac. *Tulipa kaufmanniana* is, I am afraid, one of those things that do not take well to a northern habitat. The flowers this year have dwindled away to about half the size they ought to be, and though they were open equally early they lack size. One of the bravest of spring flowers is the old

BULBOCODIUM VERNUM,

called by Parkinson a *Colchicum*. Some of the expanding buds, as in his day, appear quite white, and confirm the exactitude of that old gardener. Though the flowers are but little damaged by frost the plants do not seem to thrive so far north.

The cheapness of the bulbs, however, permits those who like a good thing to purchase a few annually. Are there any

DOG'S-TOOTH VIOLETS

finer than the *grandiflorum* type of white and purple? I think not. There is now a variety of kinds to choose from, but the shades of colour represented are so generally poor that one turns with pleasure to the older forms. Of other *Erythroniums* than *Dens-canis* there are several, but all these lack the graceful beauty of the old sorts. Not the least good quality of the *Dog's-tooth Violet* is the happy way it increases when left alone. Nor does it seem to retain any prepossession for a particular soil or situation.

R. B.

THE FRUIT GARDEN.

THE STRAWBERRY.

(Continued from page 326.)

WHEN the ground to receive the plants is quite ready they may be taken up (if not in pots), placed in a wheelbarrow, and covered over with a mat until planted. Make quite sure that the mass of soil and roots is not in the least dry by giving each plant a good watering before planting takes place. There is nothing more detrimental to the success of a plant than to put it in the ground when its roots are in want of water. It is probable they will remain in that condition for some days, and by then it is more than likely that the plant will have suffered to such an extent as to be worthless. Water applied after planting will almost certainly make its way around the sides of the mass of roots and soil if this is dry; in fact, it would be almost impossible for it to enter the dry soil—it would trickle away into the less resistible medium around. If, however, the mass of soil and roots of the young plant is equally as moist as that of the surrounding soil any water given would percolate as freely through the one as through the other, and the plant would have a proper start in its new position.

The best tool with which to plant the Strawberry is a trowel; one can make a hole quite large enough with this implement, and the work can at the same time be done expeditiously. In planting it is essential to insert the plant at such a depth that all the roots are well covered (say, with an inch of soil), but the crown, that is the point from where the young leaves proceed, is left entirely uncovered. On no account must the plant be placed so high as not to be firm when the work is completed. This

error may almost be said to be worse than that of planting too deeply. The danger in having the crown so low as to be covered with soil is in the liability of this to decay. When rain falls the soil in the crown would, of course, become moist, and this could hardly fail to have the effect of causing the young leaves to decay. The hole must be made large enough to allow of the roots being fully spread out.

To ensure the planting being done in a workman-like manner a line should be drawn across the ground and the plants put in close by. Make the hole with the trowel on both sides of the line, so that the roots may spread on either side and the plant itself be close to the line. It is important to afterwards make the plant firm by pressing the soil around it with the feet, taking care not to touch the plant. Firm planting has much to do with the ultimate successful growth of the Strawberry.

TREATMENT AFTER PLANTING.

If the planter has observed the all-important item of well watering the young plants before they are placed in their permanent quarters, it will not be necessary to water them again for some days. Should the weather, however, be hot and dry one ought to see that they do not in the least suffer from the want of water, for if this happens at such a critical time their prospects of becoming quickly established in the new and permanent quarters may be seriously affected. An excellent plan, and one followed by all good Strawberry growers, is to place a mulch of well-decayed manure around the plants and between the rows. This will prove invaluable to the former, for if the autumn is at all hot and dry the mulch will greatly assist the young plants to make roots by keeping the ground moist and cool. The sun shining upon the bare ground causes it to become hard and eventually to crack; through the cracks much moisture naturally escapes to the detriment of the roots and the future welfare of the plants. The value of a good mulch is not only that it protects the roots, as above described, but its manurial properties are carried by the rain down to the roots, and prove of great benefit to them in this manner also.

The advent of spring will bring in its train much work, whose performance is essential to the best culture of the Strawberry. In the first place, weeds will make their appearance, and unless checked they will eventually, partially if not wholly, smother the plants. Weeds should never, if it can possibly be avoided, be allowed to run to seed; the labour of eradicating them is, should this happen, greatly increased. On the first signs of their appearance make good use of the Dutch hoe, and leaving the weeds on the surface of the ground one or two bright days will then effectually dispose of them. By attending thoroughly to the hoeing of weeds quite early in the spring, and thereby preventing their producing seeds (which very quickly germinate and produce another lot of weeds), the necessity for labour later in the season and the annoyance that would be caused are greatly reduced.

Not later than the month of May a covering of clean straw should be placed around the plants and between the rows. This is for the purpose of keeping the fruits clean when ripe and also to prevent their being damaged. Unless this precaution is taken the crop of fruits may be almost completely spoiled during stormy weather. Heavy rain beating down on the soil causes this to splash and disfigure the Strawberry fruits, and often so badly as to render them practically worthless, for it is impossible to afterwards remove the marks and splashes without damaging the fruits. They are as everyone knows extremely delicate and tender. To a certain extent this covering of straw serves to protect the flowers from late frosts; when there are signs of a sharp frost being probable the straw should be loosely shaken over the flowers before night; this simple precaution may perhaps save the crop of fruit.

A. P. H.

(To be continued.)

NEW VINE BORDERS.

AN amateur gardener, who writes that he is "a close reader of THE GARDEN and has

derived much benefit therefrom," has asked in a private letter if I inadvertently omitted to include manures in the compost that was recently (see page 112) recommended as suitable for the Grape Vine, or if they were intentionally left out. I have replied to my correspondent, but since doing so it has occurred to me that other readers of "Gardening of the Week" may have doubted the soundness of my advice, and that perhaps space will not be altogether sacrificed if my notes were supplemented. In the first place, it may be remarked that all the Vine borders here are made in the manner indicated, with the slight difference that, owing to there being a deficiency of old mortar when they were made, some brick rubble was added to ensure adequate porosity. The greater number of the borders were formed twenty-three years ago, when we replanted five vineries, in order to eradicate the phylloxera, which, by the way, we were successful in accomplishing, and I may I think say, without being charged with self-exaltation, that the Vines themselves have amply given, and are still giving, evidence of the soundness of the practice that was recommended. Let it be understood, however,

rich enough for young Vines until their roots have well permeated them, and, being perfectly porous, readily admit air to penetrate them, which is a most important factor to advance healthy root growth, as well as to preserve for a lengthened time the borders in a sweet state. Moreover, borders thus formed are in every way suitable receptacles for artificial fertilisers, liquid manure, &c., which can be supplied to them when their natural manurial elements are becoming plainly exhausted, a state of things that can be readily observed from the Vine's symptoms by any intelligent cultivator. Thoughtful growers of fruit feed their subjects when, and not before, they require assistance, and it is needless to remark that they are usually the most successful gardeners.

Monmouth.

T. COOMBER.

A NOTE ON STREPTOCARPUSES.

I SEND you a photograph of hybrid Streptocarpuses (Veitch's strain) showing the plants in 3-inch pots. The varieties include flowers



HYBRID STREPTOCARPUSES IN NEW ZEALAND. (From a photograph sent from Christchurch, N.Z.)

that sound calcareous loam from the surface of an old pasture, stacked long enough for its herbage to decay, was the kind of soil used. Light, hungry soils, which are invariably, as far as possible, shunned when Vine borders are made would, of course, be benefited by being discreetly incorporated with coarse bone-meal, crushed bones, or some other suitable long-lasting fertiliser.

A most essential attribute to a Vine border is its constitution of a perfect-rooting medium, and its embodiment of sufficient nutriment to ensure satisfactory growth. Good fruit will follow, but over luxuriance, even in the Grape Vine, be it remembered, is by no means satisfactory, and in using, especially for young Vines, excessively rich compost there is the risk of the object in view being defeated—viz., the production of thoroughly matured canes, possessed of prominent buds, by causing the growth of gross, sappy wood furnished with flat buds, some of which absolutely refuse to develop into growths. Who has not seen cases of this kind, and their consequent results—viz., rods irregularly studded with spurs, accompanied not infrequently with gross, fasciated laterals? Borders founded on the compost recommended, upon the piecemeal principle, and efficiently drained, are

of white, blue, pink, and lavender shades, but there are many other colours. The plants are fourteen months old. I have over one hundred now in bloom, and remembering the Streptocarpuses of only a few years ago one cannot but be grateful to Kew and to Mr. Watson, who began the work of intercrossing the three or four varieties then known to gardeners. Our thanks are also due to Mr. Veitch and others for the further improvement made in this charming plant.

JOHN DUTTON.

Andover Street, Christchurch, N.Z.

KEW NOTES.

IN THE MONTH OF APRIL.

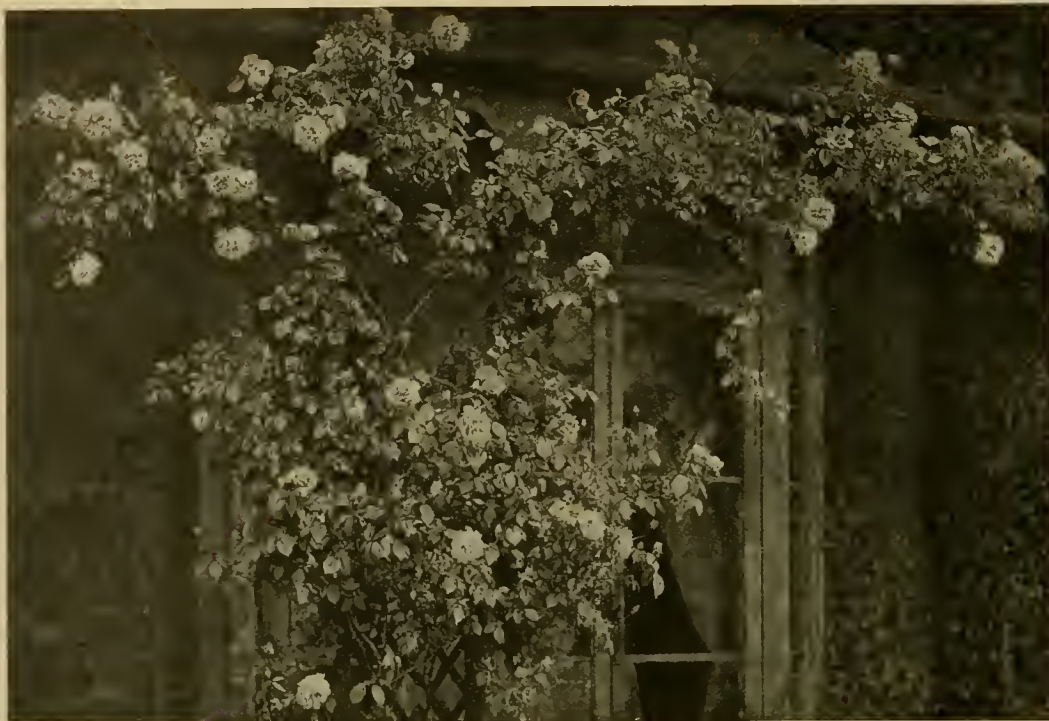
SNOWDROPS and Crocuses have gone by, Scillas and Chionodoxas are passing quickly away, and now the reign of the Daffodil at Kew has begun. As each phase of spring glides by we are inclined to think that nothing can be lovelier than the present one, but the artists find out which is the most pictorial and speedily set up their easels. It speaks volumes for the national importance of

Kew, outside and beyond its legitimate functions, that anyone from any part of the kingdom having a distinct object in view, whether of study or art, may without difficulty obtain early private admission in furtherance of his purpose; while the general public—to whom the gates are open at a later hour—can daily go where they will and enjoy, with scarcely a restriction, the full benefit of the wonderful beauty of the grounds, which is natural as well as artificial. It is said that 80,000 visitors thronged the gardens on Easter Monday, and it is good to think that so many dwellers in thickly populated districts were able and willing to take advantage of so great a privilege.

The rock garden is now full of interest, and attracts, amongst other people less in earnest, a good many visitors with notebook in hand. Daffodils, of many types here, as elsewhere, are very much to the fore—typical species, perhaps, rather than garden varieties. A mass of white *N. cernuus* is very fine, to which the tender little Portuguese *N. cyclamineus*, with its bright yellow reflexed flowers, is in strong contrast, but both are happy in their allotted positions. There is, perhaps, as yet no great show of colour here, for that we must go to the alpine house, which is now at its best. Amongst the fifty or more species of plants now in flower out of doors it is difficult to make a selection, though a few of the best must be mentioned. One of these is, undoubtedly, *Fritillaria aurea*, a dwarf Cilician species by no means new, but exceedingly bright and attractive with its waxy yellow flowers. It is apparently robust enough for any average garden, for it may be seen as well in the long solitary nodding bell, daintily freckled with brown. When grown in a mass these are very telling.

Anemones are coming forward well. *A. blanda* has been in bloom for some time, and *A. apennina* and its white variety are fully open. Colonies of these are quite at home in the grass amongst the Daffodils. Particularly happy in effect are some groups of Wood Anemone which have ensconced themselves amongst the stones. A fine European form of our English Pasque-flower (*A. Pulsatilla*) is well set with its beautiful silky buds, with here and there an open purple flower, showing its boss of yellow stamens; in a day or two these will be in perfection. This species has been planted in quantity in various positions, and arrests the steps of many a passer-by by its silvery sheen. A near ally, *A. Halleri*, considered by many to be a still finer species, is beginning to push up its shaggy buds which appear before the leaves, but is scarcely as yet more than an inch above ground in the bay which it occupies in the rock garden. These charming mountain Wind-flowers are not difficult to cultivate, and should be grown in

quantity to be thoroughly appreciated. Besides the large blue Austrian *A. angulosa*, examples of every known form of *A. Hepatica* are to be found at Kew, and the range of colour amongst them would astonish those who only know the old-fashioned varieties. A very pure white single *Hepatica* is largely grown, as well as many others, giving a series of deep and pale shades of pink, blue, and mauve. There is also a good plantation of the somewhat rare double blue. It is said, whether truly or not, that no double white form is now in cultivation, though formerly it was well known in English gardens. Another very interesting group is a colony of Dog-tooth Violet (*Erythronium Dens-canis*), a genus which has evidently been taken in hand by Continental hybridists, while hard by the typical European species in vites comparison. There is no doubt that these garden hybrids, both in size and substance of flower and leafage, are handsomer than the type, as well as an improvement on the varieties long since distinguished as "grandiflorum." It is rather difficult, however, even after somewhat minute study and comparison, to detect any very distinctive characteristics between them, but taken as a whole it is a remarkably fine strain.



ROSE WILLIAM ALLEN RICHARDSON AT ROSEBANK, MR. MAWLEY'S RESIDENCE.

Several species of Primrose are beginning to flower. *P. denticulata*, grown in good-sized groups, is precious at this season, as it stands variations of weather fairly well. Two pretty alpine species from Tyrol—*Primula clusiana* and *P. discolor*—both purple flowered, though quite distinct from each other, are now in bloom. *P. marginata*, with mealy-edged leaves and delicate lilac flowers, nestles in comfortably amongst the stones, while *P. rosea* is opening its bright pink buds in a moist corner where the water drips into a narrow stone channel.

A little North American perennial, *Synthyris reniformis*, about 6 inches high, is worth growing in a fair-sized clump for its blue spikes at this early season, while its leathery heart-shaped leaves, sharply toothed at the edges, are distinct and pretty. Two Saxifrages are specially worth noting. *S. apiculata* is just now at its best, looking very bright with its pale sulphur-coloured heads of flower, and has the merit of lasting for some time in good condition, better, for example, than *S. sancta*, which, after a long probation in the bud state, has passed over its flowering season with a hop, skip, and a jump. The other good Saxifrage is *S. marginata*, an Italian species with large white flowers, somewhat resembling *S. burseriana* in general habit, and belonging to the same section. Another charming little Saxifrage which may be added is *S. rocheliana* with small corymbs of white flowers on stems 3 inches or 4 inches high rising out of tufts of encrusted leaves.

Though not to be found in the rock garden, a word must be said in praise of the lovely *Tulipa kaufmanniana*. A large planting of it has been in bloom for a week or more, and whether in its early bud stage with sepals carmine tinted, or with wide open flowers of creamy yellow with the heavy blotch of deep gold at the base of the petals, it should be noted as one of the most beautiful of early spring bulbs.

In other parts of the gardens large beds of *Forsythia suspensa* are making a grand display, and may fairly claim to be one of the most valuable of early-flowering shrubs, equally useful as a climber or in bush form. The deciduous Magnolias (*M. conspicua* and *M. soulangeana*) are also just ready to open their well-developed buds; some large trees planted in the Azalea garden being now

quite conspicuous from a considerable distance, while the pretty low-growing *M. stellata* is already covered with its snow-white flowers.

THE ROSE GARDEN. SPRING PLANTING.

FORMERLY it was considered risky to plant Roses in March and early April unless they were pot grown, but rosarians understand better now. Unless the soil is very light one need not fear as to the success of such planting, providing the land be well trenched or ridged some weeks previously. This, to my mind, is important. To dig up heavy soil and plant immediately is courting failure. The small roots have no chance of laying hold unless some prepared compost is given to each as the planting proceeds, and this is not always convenient. But when the land has become mellowed by wind and frost then it is in a workable condition. I would much rather plant in March than late in December or January, but I should not advocate deferring to purchase until the present time. The plants, if secured in the months named, could be carefully heeled in under a north wall, and planted when the most favourable opportunity offered. Many growers of Tea Roses recommend lifting standards of this tribe, and heeling them in under such a wall as mentioned until March. If a severe winter sets in they are comforted by the reflection that their Roses are safe. All the decorative Roses—Teas, Hybrid Teas, Chinas, Polyanthas, &c.—plant well now. Where practicable a bed of a kind is preferable.

The beds should be large enough to take from ten to twenty plants each at least, then the true effect of a decorative Rose is obtained. Many strive too much for colour arrangement and care nothing about the growth. Roses that can be depended upon to "do well" afford in the end the greatest satisfaction. Rose growers will hail with delight a few good yellow kinds that are really yellow or of orange shading not cream. We see such colours exhibited among garden Roses, *Ma Capucine*, *Souvenir de Catherine Guillot*, *Souvenir*

de Mme. Levet, and Roses of that class, but I am afraid they do not give general satisfaction, being so tender, whereas Viscountess Folkestone, Gustave Regis, Caroline Testout, Laurette Messimy, Mme. Abel Chatenay, Grüss an Teplitz, &c., provide a never-failing source of pleasure. Many gardens would be much improved by a low hedge of monthly Roses, if such does not already exist, or a still lower hedge of the pretty hybrid Polyantha Roses. One of the loveliest is *Gloire des Polyantha*—so well adapted either for low hedges or hedging. Low walls by glass houses would provide a place for many a choice Tea Rose, such as *Souvenir d'Elise Vardon*. They should not be stinted of good soil; the best plan is to remove the existing soil to a depth of 3 feet. Put in 7 inches or 8 inches of broken bricks, stones, or clinkers, then fill up with good loam and well rotted manure, adding a handful of bone dust to each plant when planting. I have seen Mme. de Watteville, Hon. Edith Gifford, Comtesse de Nadaillac, and others develop into splendid bushes planted in such positions. It must be remembered that rather more moisture is required in the summer than for plants in the open. A good plan is to leave a cavity around the base of the plant so that liquid manure when given will not run away to waste.

I should say that when planting in spring prune the growths well back before planting, even to two or three eyes. The roots are the better able to support these two or three eyes on each shoot than they are the long growths. Climbing Roses would receive a different treatment. These may be shortened to half their length the first season.

ROSE W. A. RICHARDSON.

THIS is one of my favourite Roses. I have grown it for many years and with great success, although it has received no special help in any way. It is very vigorous and every summer is smothered with flowers the shade of cut Apricots, but unfortunately my plant is on a south wall and the flowers quickly lose their first fresh colouring. When it succeeds it is a treasure indeed. A Rose I like almost as much is *Alister Stella Gray*. This was a wonderful picture last summer, the plant being smothered with flowers; the apricot-coloured buds are very pretty. I always remove worn out growths after flowering.

AN AMATEUR ROSE GROWER.

RECENT PLANT PORTRAITS.

THE last portfolio of the *Dictionnaire iconographique des Orchidées* contains portraits of the following thirteen species and varieties:—

Aeranthus ramosus, a variety with greenish flowers shaded with brown.

Angrecum scottianum, a variety with dull white flowers shaded with green.

Cattleya chamberlainiana, a fine variety with deep rose-coloured fringed lip.

Cattleya warriniana, a variety resembling the last-named, but with sepals of a deeper shade of brown.

Lælia lindleyana, a curious variety with deep rose-coloured lip, the upper part of which is white and green, sepals spotted with brown.

Odontoglossum grande var. *pittatum*, a curious variety with greenish yellow flowers blotched with deeper yellow and a dull white lip.

Platyclinis filiformis, a variety with long, pendulous racemes of tiny greenish star-shaped flowers of no beauty whatever.

Platyclinis glumacea, a rather prettier variety with large rosy white flowers.

Prodena stapelioides, a curious species with green flowers spotted with brown and a deep rosy purple lip, somewhat resembling a *Stapelia*.

Promenaea xanthina, a more ornamental variety of the last-named, with pendulous yellow flowers shaded with brown and a red column in its centre tipped with pure white.

Sobralia virinalis var. *lilacina*, a beautiful variety with pure white flowers and a deeply fringed lip shaded with pale rose and a yellow throat.

Stanhopea reichenbachiana, a curious variety with lumpy flowers of a dull white faintly spotted with carmine.

Trichopilia crispa var. *marginata*, a rather pretty variety with rosy purple flowers and narrow sepals margined with white.

The first part of the *Revue Horticole* for April contains *Ethenus creticus*, a low growing small shrub from the Island of Crete, with elongated bunches of rosy purple flowers with hairy calyces. Introduced by M. Huber of Hyeres.

The April number of the *Revue de l'Horticulture Belge* contains a double plate of a new hybrid Orchid raised by the gardener of the King of the Belgians in the Royal Gardens at Laeken, *Laelio-Cattleya Prince Leopold*, a handsome variety bearing one flower on each stem, of a deep shade of orange shaded with yellow. This hybrid is the result of crossing *Laelia cinnabarina* with *Cattleya chocoensis alba*, which is a pure white variety with no trace of colour in the lip.

W. E. GUMBLETON.

NEW AND RARE PLANTS.

THREE NEW AFRICAN HELICHRYSUMS.

SOME three or four years ago Herr Leopold Meyer, of Leipzig, collected on the slopes of Mount Kilima-njaro the seed of three distinct varieties of shrubby perennial Everlastings, of which he has also brought home carefully dried specimens. These specimens were submitted to Dr. Engler, the learned Director of the Berlin Botanic Garden, for identification, who, after examination and comparison, declared one of them to be quite new, and named it after his Sovereign the Emperor William—*Helichrysum Gulielmi*. The second he said was *H. Newei*, having been so previously named after the Rev. James Newe, who had been one of the first Europeans to accomplish the ascent of the mountain on which it was found. The third he said puzzled him, but, being in his opinion very like a variety known as *formosum*, he suggested that it should be provisionally named *H. affine-formosum*. The

entire stock of these seeds was acquired by the well-known importer of new plants, Herr Max Leichtlin, of Baden-Baden. He in due course raised and distributed seedlings of all three varieties, and from him I obtained one of each. They were all planted out for the summer in my garden, and grew away well and healthy. The first-named flowered freely the first year I had it (1900) and produced bunches of white flowers numbering from twelve to eighteen on each bunch, first on the apex of each of its three main growths and afterwards on a number of subsidiary lateral shoots or side growths. Most of those flowers did not expand till after the plant had been lifted into a pot for protection from frost in the greenhouse early in October. Though the flowers when open were pure white, many of the buds before expansion were very prettily tinged with rose colour. The foliage was also covered with a thick whitetomentum. The plant died suddenly without apparent reason before it had finished flowering.

The other two varieties grew and developed very rapidly into quite big bushes and showed no sign

of flowering during last summer, during which their large pots were plunged in one of my borders in the open air to avoid the disturbance of lifting such large plants as would occur if they had been planted out altogether. Towards the end of the autumn the one bearing the provisional name of *affine-formosum* produced a very fine bunch of fifty-eight white flowers showing no pink colouring on the buds. This was sent to the Kew Herbarium for identification, where it was pronounced to have no resemblance whatever to *H. formosum*, but to be merely a glabrous or smooth-leaved form of *H. Gulielmi*, though for all horticultural purposes quite distinct from it, both in habit of growth and form of leaf. I propose, therefore, to name this *H. Gulielmi* var. *Meyeri*, after the gatherer and introducer of the seeds of the plant.

The third variety only began to bloom quite at the end of last year, and on its flower head being sent to Kew it was found on comparison that Dr. Engler was mistaken in pronouncing it to be *H. Newei*, which has straw-coloured flowers, whereas it has flowers which in bud are a uniform deep rose colour, but become pale pink when expanded. It was subsequently identified as *H. Volkensii*. It has much fewer flowers on each bunch than the others, the number being usually from three to six or seven. It is, however, in my opinion, quite the most elegant and beautiful of the three varieties. *H. Gulielmi* and *H. Volkensii* are easily propagated either by cuttings or rooted suckers which appear round the base of the stem, but the other variety, being of much coarser growth, will not strike from cuttings, and I have only been able to increase it by laying some of its lower branches into the pot in which it grew; they then rooted without any difficulty. All these three varieties have been figured in the *Gardeners' Chronicle*, and *H. Gulielmi* has been figured in the twelfth volume of the *Botanical Magazine* on plate 7789.

W. E. GUMBLETON.

ACACIA CULTRIFORMIS.

OF the large number of Australian species of *Acacia* that have been described, about two dozen may be selected as being far in advance of the remainder for general cultivation. Of this number eight or ten are in fairly general use, the remainder being little known. Of the better known ones the subject of this note is one of the most popular, and an idea of its graceful habit and free-flowering qualities may be gathered from the illustration. It is now about eighty years since it was first introduced from New South Wales, and was one of the first of the good flowering species to find its way into our gardens. It is distinguished by its rather loose habit, glaucous, knife-shaped phyllodes, and short racemes of fluffy, deep yellow flowers. It succeeds well grown either as a pot plant or planted out in a greenhouse in a border of sandy peat or peat and loam. Under the former method of culture nice decorative plants can be grown in 5-inch or 6-inch pots, but under the more generous treatment of border culture it assumes much larger dimensions and makes a much handsomer plant. Like several other species of *Acacia*, it may be grown either as a bush or pillar plant, and if grown well neither can be said to be the better method. After flowering the young branches should be shortened back to within two or three eyes of the old wood to encourage long, strong, flowering shoots for the following year. When grown in pots the branches must be stopped once or twice in early spring to ensure a bushy



ACACIA CULTRIFORMIS IN THE GARDEN OF MRS. DENISON, LITTLE GADDESDEN, BERKHAMSTED, HERTS.

habit, but with planted-out specimens this pinching is not necessary. At all times a cool house with plenty of air and light is required.

W. DALLIMORE.

[Mrs. Denison of Berkhamsted kindly sent the photograph from which the illustration was made. A first-class certificate was given to Mrs. Denison when it was exhibited by her at the Royal Horticultural Society's meeting on February 25.—Eds.]

SNOWDROPS IN NEW ZEALAND.

WE are glad to publish this interesting letter from New Zealand, written by Mr. A. Wilson to Mr. James Allen:

"I picked up the other day in a secondhand bookstall an old volume of THE GARDEN—that for the first half year of 1886—and in looking through the volume was much pleased to come upon an article of yours on Snowdrops, illustrated with a coloured plate showing eight varieties, and a woodcut of *Galanthus plicatus reflexus*. Towards the end of your instructive review of the more interesting species I find these sentences: 'I understand that in New Zealand the Snowdrop will not thrive; in fact, it pines and dies away in a year or two. What is the reason of this?' It occurs to me that you may find of some interest the experience of one who has been attempting for the last twenty years or so to grow Snowdrops in this country, and who, if not very successful, has at any rate succeeded in keeping them for more than a year or two. There can be no doubt that in this climate, which grows most English flowers better than England itself, the Snowdrop is not an easy subject; yet your impression 'that it pines and dies away in a year or two' requires revising. *Galanthus nivalis*, both the single and double forms, if planted in an ordinary border and left to sink or swim, are pretty sure to vanish in a short time. The bulb becomes attenuated to a white thread and so disappears. A skilful professional florist told me many years ago that he succeeded in keeping his Snowdrops by covering them with grit or small river

gravel stamped hard down. But though at that time he had healthy clumps of the single and double Snowdrops, I rather think he has none now, or, if he has, not those particular bulbs or their progeny. On the other hand, a few years ago there was an amateur florist not far from my place who grew the *G. nivalis* with perfect success in

most flourishing edging of Snowdrops, which it was my delight and humiliation to look at in the springtime. I was to have shared his bulbs and his secret, but in the meantime the Snowdrop grower died, and his Snowdrops must have died with him, for they are no longer there. As for his secret, I have no doubt that it was simply to lift and rest the bulbs.

"In my own case, if success with Snowdrops depended on their being regularly lifted and rested, I should have to go without them. For Snowdrops are not like Daffodils, which you may keep out of the ground pretty well as long as you please, and plant whenever you have time and inclination. Sooner or later I should fail to plant my Snowdrops at the proper time and so lose the bulbs. As it happened, however, the single and double Snowdrops grow in my garden without an annual lifting. And this is the way of it, set out historically. Some years ago, six or seven perhaps, I sent to a London firm for one hundred single and double Snowdrops. The

bulbs came out in a package with other things; but they had been huddled anyhow into a paper bag, and when they reached me were apparently an indistinguishable mass of green mould. Such as they were, however, in case there might be some life in them, I planted them at the root of a Lilac tree. Two or three of them came up the first season, and each spring they have come stronger and stronger, and now they seem quite established and flower well. Great was my surprise and pleasure this year to find that even some of the doubles had survived, and, having taken about five years to collect the necessary strength, were blooming. Now, if half-decomposed bulbs such as those could establish themselves, what a colony I should have had if the bulbs had reached me in a good condition.

"My explanation of the fact is this. In the open ground in this mild and moist climate the common Snowdrop, planted in the open border, is too constantly under stimulus. It is a case of burning the candle at both ends. This may be prevented in two ways—either by lifting the bulbs annually and keeping them out of the ground for six weeks or so, or by planting them among the roots of a strong-rooting deciduous tree like the Lilac. You know what a mat of roots a Lilac has. At the resting time of the Snowdrop these roots are most active and keep the soil within their radius practically dry. Probably the shade of



THE NEW
FRITILLARIA
ASKHABADENSIS
(NATURAL SIZE).

(From a drawing by

H. G. Moon.)

her little cottage garden. Her bulbs not merely lived but increased, and I received a few from her on more than one occasion. Her secret was to lift the bulbs every year and give them a period of absolute rest. Within a stone's throw of my garden fence there is another cottage garden where, in the lifetime of the late owner, there was a

the tree also furthers the resting process. When the activity of the Snowdrop is recommencing, the Lilac has pretty well finished its season's work, and during the Snowdrop's period of full activity the tree is leafless and its roots quiescent. And so it is as a sort of parasite to the Lilac that I manage to grow a few of the single and double *Galanthus nivalis*. As regards some other varieties there is no trouble at all. *Galanthus plicatus* grows with me and seeds itself on the border. I note, however, that the bulb increase is *nil*; the three bulbs of this variety which I originally got are three still. But there are a few seedlings of different ages round about the parent plant. *G. Elwesii* does well with me in a box. I do not think there is much increase, if there is any, but the foliage is strong and the flowers beautifully large and globular—far and away the finest Snowdrop I have seen. *G. Sharlocki* is very vigorous with me, and very floriferous. This Snowdrop also has increased from two or three bulbs to a considerable clump. *G. Imperati*, still in the box in which it was originally planted, has also considerably increased and flowers and seeds abundantly. I sowed one harvesting of seed, but it has been over a year in the ground without any sign of germinating. Of *G. Fosteri* I have but one bulb, the survival of several that I received five years ago. I note that this seems a good seed season. *Imperati* is bearing abundantly, as usual; *Plicatus* has three beautifully plump capsules; *Elwesii* has also several capsules, and *Sharlocki*, which is not a good seeder, has one. Such is my experience with Snowdrops in this colony—not altogether discouraging, I think. Anyone who took the Snowdrop up as a garden subject, and tried all procurable varieties, paying particular attention to cross-fertilisation, might find or create Snowdrops that would take as kindly to this climate as the *Narcissus* and the *Chrysanthemum*.

"I shall be glad if you find these facts of any interest to you. If you think other growers of Snowdrops are likely to be interested by what I have written, please make what use of this letter you think best. A. WILSON.

"*Maori Hill, Dunedin, New Zealand.*"

AN ARTIST'S NOTE-BOOK.

A NEW FRITILLARIA.

THIS beautiful *Fritillaria* was referred to by Miss Willmott in THE GARDEN of last week. It has drooping bell-shaped flowers of soft greenish colouring, with quite a suffusion of pale yellow. The flowers, some six to eight in number, crown a vigorous growth nearly 2 feet high, the ample leafage being oblong lanceolate acuminate in outline, and some 4 inches or more in length, and an inch broad, or rather more at the widest part. It is a welcome addition to an interesting race. The genus will be illustrated and described shortly.

FLOWERS AT GIBRALTAR.

It is a common mistake made by those unacquainted with Gibraltar to picture it as a bare and arid rock. Its proud position as the strongest fortress in the world, and its popular title of "The Rock," have doubtless much to do with this erroneous conception; but, as a matter of fact, it is, in the spring, a very paradise of flowers, and, though it must be admitted that the majority of these are confined to garden precincts, the uncultivated portions of Gibraltar are by no means destitute of blossom. In the early days of March the hillside of South Town, as seen from the man-of-war anchorage, is flushed with purple-pink by the blossoms of numerous Judas Trees, while a walk ashore will reveal many wild flowers and descendants of garden occupants blooming on the stony slopes. Tall *Asphodels* in thousands, hawked over unceasingly by the swallows, clothe a steep declivity with flesh white; a small, purple, golden-eyed *Crocus*

rock it is difficult to say, but that its environment is eminently adapted to its needs is evident from the fact that on this northern cliff-face it exhibits far greater vigour than in the soil of any Gibraltar garden. The behaviour of *Iberis gibraltaria* in this site suggests that a perpendicular rock cranny and northern exposure such as is generally given to *Ramondia pyrenaica* should prove the most successful method of culture in this country. Scarlet zonal *Pelargoniums* have in many places effected a lodgment on rugged cliffs, and grow and bloom freely with a minimum of soil, while in the rough ground just below the Signal Station, the highest point of The Rock, was, a few years ago, a clump of *Lilium candidum*, and hard by a mass of crimson *Antirrhinum*, both presumably the progeny of plants grown in the little garden of the station.

Among foliage plants the great American *Aloes* (*Agave americana*) hold the pride of the place, fringing roads with their giant, blue-grey spiny leaves, and throwing up lofty candelabra



A CORNER OF A GIBRALTAR GARDEN.

grows in the hard foot-paths; Sweet Alyssum abounds, and Bladder Campions, Mallows (pink and sulphur), Wild Mignonette, Marigolds, Broom and Gorse, large clumps of *Scilla peruviana*, Golden Oxalis (single and double), Periwinkles (pale blue and white), Sea Lavenders, and the charming little *Iris filifolia*. Here and there the scarlet of the Poppies glows, the Honeysuckle's scented blossoms are haunted by orange-tip butterflies, and along the verge of a cliff 50 feet in height, overhanging the sea, halfway down which an osprey has its nest, a *Mesembryanthemum* spreads an edging of purple-pink. From the port holes in the North Front galleries, looking down a sheer 1,000 feet of perpendicular precipice, *Iberis gibraltaria* may be seen in its glory, for here it grows clinging to the living rock of the stupendous cliff at varying heights, not in puny plants as we generally know it in England, but in rounded masses 2 feet and more in diameter smothered in lavender blossoms. What substance it can extract from apparently solid

of bloom in April. Early in March *Aloe socotrana* is brilliant with its vivid vermilion flower heads, followed later by other species of *Aloes* with orange and yellow blossom-spikes. Palmetto scrub grows freely in places, as does the Prickly Pear (*Opuntia*). In April the fortress wall at the Ragged Staff Gate is purple with a veil of *Ipomaea*, and in the Alameda, or public gardens, close by, numberless flowers are in bloom, among these being Australian Wattles in variety, *Justicias* (white and pink), scarlet and purple *Cupheas*, *Plumbago capensis*, *Strelitzia reginae*, *Bignonias*, *Kennedya*s, *Salvias*, *Habrothamnus* (crimson and orange), and many others, while around the gardens are restful avenues of old Stone Pines. Government House, now known as the Convent, formerly a Franciscan monastery, is built about a spacious arcaded "patio," in whose centre *Arums*, *Palms*, *Rose trees*, and other flowering shrubs and plants are grown, creepers being trained to the surrounding pillars.

In its garden are many interesting and

beautiful flowers and trees, amongst the latter some fine Eucalypti, Date Palms, and an old Dragon Tree (*Dracaena Draco*), said to be 1,000 years of age. Florist's Cinerarias, fancy Pelargoniums, Fuchsias (which have assumed tree-like proportions), and hosts of other bright or fragrant plants fill the well-stocked beds. The garden *par excellence* of Gibraltar is, however, that of The Mount, the residence of the senior naval officer, which is large in extent and laid out with charming informality. From the front gate the winding drive rises, shadowed on either side by great Pepper Trees, whose slender, drooping branchlets, fringed with feathery foliage, tessellate the broad gravel sweep with an ever-shifting mosaic of sunlight and shade, while close to the deep-verandahed houses and towering high above it stands as sentinel a great Stone Pine. In March the beautiful garden, where flowers rise in billows by the winding paths, hang in festoons from archway and arbour and wreath the bough and swaying shoot with garlands of bright colour, is, indeed, a garden of sweet scents. Heliotrope is everywhere in bloom, not as we know it in England, of dwarf shrubby growth, but in hedges 8 feet high, and clambering unrestrained with Banksian Roses over long pergolas; the Wistaria suspends its scented tassels of soft Lilac; breadths of Freesias flood the air with fragrance; Orange trees covered with golden fruit and ivory white, bridal blossoms, spread their luscious perfume far and wide, and wandering Honey-suckle trails add their odour to the manifold sweetness held by the breeze. The Bougainvillea is a sheet of livid carmine-lake; in pure array the countless chalices of Arum Lilies gleam, and great Daturas are hung with hundreds of drooping, snowy blossoms, that as evening falls distil a subtle essence from their wide-spread trumpets; the Tangier Iris displays its blue and gold; the Hibiscus flaunts its great crimson blossoms, and Cape bulbs create a scarlet brilliance in the borders, while Bamboos hold aloft their pennoned lances and fruting

Bananas arch spreading leaves with their suggestions of tropic growth, though in sight across the Straits lies the snow-covered range of the Atlas Mountains. But though so rich in flowers from warmer climes than ours, the old English favourites are not forgotten in this garden, and white Madonna Lilies, stately Hollyhocks rearing their tall spires of bloom, fragrant Cabbage Roses, Sunflowers, Love in a mist, and heavy headed Poppies stir remembrance of far-off cottage gardens in leafy Devonshire lanes. Gazing at the austere profile of The Rock from the Western Straits it is hard to believe that within that grim exterior lies such a garden as that of The Mount.

S. W. FITZHERBERT.

NOTES ON HARDY PLANTS

GALANTHUS SCHARLOKI.

AT present this singular-looking form of *Galanthus nivalis* is in flower, and draws much attention to itself by its quaint and distinct appearance. The most prominent feature is the divided spathe, which, after rising erect, begins to curve downwards, and in its various positions is suggestive of a pair of horns above the small flowers. Even when this Snowdrop is just emerging above the soil, it is singular-looking, because of the way the flowers appear in a ball-like form, caused by the division of the spathe. Another feature which distinguishes it from the typical *G. nivalis* is the presence of green markings on the exterior of the outer segments. These are of rather irregular form, and vary slightly in size and shape in a clump. They are not so pretty as the green markings of *Leucojum vernum*, either in shape or in brightness of colouring, but they are of interest to students of colour-problems in flowers. This singular Snowdrop was first found by Herr Julius Scharlok, who discovered it in the Valley of the Nabe, one of the Rhine tributaries. From it Mr. Allen has raised some interesting seedlings, of which two—Alonzo Scharlok and Jason Scharlok—are in bloom here at present. Both these

have the divided spathes and green spots of their parent, but neither is so pretty, a fact which Mr. Allen quite admits. Someone with time to spare might, however, succeed in raising something of great merit and interest from this singular Snow-drop.

S. ARNOTT.

IRIS HELDREICHI.

It is seldom, I think, that flowers in my garden are so much later than at Kew, as is the case this season. I see that this charming little Iris flowered on a south border there in the third week of January, while here the first flower is just showing colour to-day (March 3). These are, however, plants which have been established since 1900, and it may be that those at Kew are recently imported or were dried off last year. Mine have remained in their rockwork pocket since planting time in 1900, and have, with the exception of glass overhead in the spring of 1901, shared in the common treatment of the other alpine on the rockery, including copious waterings and dry weather in summer. None of my few bulbs seem to have been lost, and the plants look remarkably healthy and vigorous. Evidently they do not object to our climate, though last autumn they had perhaps more rain than they liked. Some of these early bulbous Irises seem to need ripening well in summer, but this cannot be afforded them easily when on the rockery. I may observe that the position of these bulbs is almost due south, and that they have had no protection of any kind this winter.

S. ARNOTT.

Carsethorn, by Dumfries, N.B.

A SHRUBBY BORDER.

THE accompanying illustration tells its own tale. The border, if such it may be called, is composed chiefly of bush Roses, and at the foot are Funkias and Irises. In summer the effect is very pleasant with the dense leafy background behind.

R.

ANEMONE VERNALIS IN A BAVARIAN ROCK GARDEN.

I SEND you some photographs of a little group of *Anemone vernalis*, which was a lovely sight in my rock garden a week ago. There were about 100 flowers and silky buds, the fully expanded ones measuring very little short of 3 inches across. They were a delight to gaze upon every spare moment of the day. The bees and butterflies were equally delighted with them, the former literally smothering the flowers, as many as four of them sometimes weltering among the pollen of a single flower. A few of them may even be noticed in the photograph. About fifteen miles from here there is a favoured spot where these lovely Anemones descend from the near alpine chain on to the plain below (about 1,600 feet above Saaleval). It was here that I collected the plants in the spring of 1901. They were planted in the rock garden on a bank gently sloping towards the south-east, and at once took kindly to their new home. The subsoil consists of great depths of glacial (limestone) moraine, and is covered with a very thin layer of poor soil only. The situation being therefore excessively dry, I added a little of the black surface-soil of a peat bog, which seems to have suited them admirably, for by the autumn the plants, which were at first planted rather closely, touched each other and looked the picture of health. Before the advent of winter the light brown, hairy integuments of the embryo buds could already be seen among the leaves, promising well for a good show of bloom. When the buds began to push last month, as many as seven could be counted on each of several individual plants. I should not omit to mention that the little bed lying



A SHRUBBY BORDER WITH BOLD-LEAVED PLANTS AT THE MARGIN.



PEAR MARIE GUISE. (Reduced about one-third.)

fully exposed to the sun, and the past summer having well nigh been rainless, with incessant easterly winds blowing, the plants were periodically treated to a good soaking. E. HEINRICH.

[We regret that the photographs, showing a charming group, were technically unsuitable for reproduction.—Eos.]

KITCHEN GARDEN.

LATE SEAKALE NOT FORCED IN SPRING.

IN many gardens Seakale of the best quality could be grown with so little trouble if no forcing were attempted, but grown thus there must be sufficient room to mould up the top growth to blanch the latter, otherwise the Kale soon gets green or discoloured if exposed to the light. Seakale of the best quality can be had from April with little trouble; the old system of using pans, pots, or boxes even is not necessary. We merely cover the crowns with fine ashes, and over this bank up soil 15 inches to 18 inches deep and the same width, making the soil firm with the back of the spade. The Kale is cut as soon as it lifts up the soil freely. Of course a heavy clay soil would not be suitable, and in this case it may be well to use boards first down each side of the roots, and in any case there must be at least 3 feet between the rows to allow of sufficient soil being taken to mould up the plants to get as late a supply as possible. I have used a good covering of litter over the soil when banked up. This prevents the sun warming the earth, and Kale quite a fortnight later is obtained. If needed earlier a little warm litter between the rows will soon hasten growth.

For late Seakale we destroy the beds after being cut over for three seasons, as though the plants would continue to yield for years the crown growths split up and the growths are not nearly so fine. If the thick roots are severed when destroying an old bed cut these into pieces about 6 inches in length; they make excellent planting material for new quarters. Seakale likes deeply cultivated, well manured land, as it is a gross feeder. One great advantage of growing Seakale in this way is the small labour entailed, as the banking over or moulding up in February or March is a simple matter. This work must be got

through before the crown growth begins to expand, and when cutting care must be taken to go carefully over the rows and secure the most advanced growths, as in the spring the plant grows rapidly. It is far better to cut the Kale with a portion of the root attached, and place it in water in a dark place till required for use, than to allow the growths to push through the soil. Green Seakale is very palatable, but it does not compare with the blanched. G. WYTHES.

HARDY FRUITS IN SEASON.

PEAR MARIE GUISE.

THIS spring Pear is very little known, and is not mentioned in any of the fruit growers' catalogues. Dr. Hogg, in his "Fruit Manual," describes it as being of continental origin. The tree from which the fruits illustrated were gathered is an old pyramid on the Pear stock. It is very hardy, free-bearing, and a splendid keeper, having supplied me with dessert fruit right through March. When properly ripened it is juicy, but rather rough, with something of a Chaumontel flavour, and refreshing. Here it compares favourably with Olivier de Serres, growing by its side, and is distinctly better flavoured than Bergamotte d'Esperen, also growing near it.

Pembury Court, Kent.

B. ADDY.

CORRESPONDENCE.

(The Editors are not responsible for the opinions expressed by their correspondents.)

THE R.H.S. AND ITS HALL.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—I have read with regret the report of the meeting on the Royal Horticultural Society's Hall. Are we poor country Fellows of no account? Many in my profession have neither the time nor the means to run up to London when we wish; at this season of the year especially we are tied to our parishes. I always look with jealous eyes at the dates of meetings which I cannot attend and eagerly look for the Journal's arrival. Yet Sir M. Foster says we are "responsible for our own

absence" and not worthy of being considered to take as much "interest in the hall question," or to have opinions of as much weight as those who have means and leisure to attend. Surely the question is one of vital interest, in which we have a right to be given the opportunity as provided in the bye-laws.

Therefore, I protest as a keen worker in the country, and I know of others working as I try to do who feel with me at these country Fellows being refused a voice in the decision.

I think it safe to say that a very large number of Fellows, gardeners and parsons, actual workers among the flowers, have been practically boycotted by the decision of the meeting.

The society is a scientific society. Is its great object that the list of Fellows should be increased, as Sir T. Lawrence said, by "the provision of a new and convenient Hall?" or is its first object to be the advancement of scientific horticulture? If the latter, would not the provision of the garden take the first place?

COUNTRY PARSON, F.R.H.S.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—In a letter which appeared in your last issue your correspondent "A. D.," referring to the Vincent Square site, states that it is "at present covered with houses the leases of which are expiring, it was a matter of absolute necessity that

notice as to the termination of those leases should be given at once, hence the apparent hurry in calling the recent special meeting of the Fellows."

The suggestion that the "hurry in calling the recent special meeting" was "a matter of absolute necessity" cannot be sustained.

There are four houses on the site under tenancy agreements as to three of them. One of these is subject to a three months' and two others to six months' notice on any quarter day. The fourth house is let on a yearly Midsummer tenancy, which, save by arrangement, cannot be terminated by notice until Midsummer, 1903. Consequently, at most three months' delay could have resulted had notices not been given at Ladyday just passed.

But a moment's consideration will show that not even this delay would really have occurred, for, inasmuch as Baron Schröder had already acquired the lease, with its obligations of an expenditure of at least £15,000 on buildings and an immediate rental of £690 per annum, it is not conceivable that under any circumstances the bearer of such present responsibilities, whether the R.H.S. or Baron Schröder, would have permitted the continuance of the existing tenancies with their comparatively nominal rentals for an hour longer than was legally necessary. Therefore, had not the R.H.S. at the meeting in question adopted the lease of the site and given the notices it is inevitable that Baron Schröder would have done so. This reason for undue hurry, therefore, completely disappears.

Your correspondent also states that "there can be no doubt that those present fairly represented the views of the absent Fellows." But this is exactly the point at issue. "A. D." doubtless holds his view in sincerity, but there are others equally competent to form an opinion who entertain an exactly opposite view.

It was to allow absent members to speak for themselves upon this point, and also to allow both those absent and those present to know something practical and definite about the scheme so suddenly sprung upon the society, that the adjournment was proposed, and could have been conceded without any injury to the society's position. LEX.

ROSES ON TREES.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—An interesting note on Roses covering the roots of trees appears on page 119, and in another place, page 135, the old climbing China Rose is

recommended for this work. The Roses named are very beautiful, remarkably free, and make a charming addition to the garden. My note more concerns Roses on deciduous trees or old trees that are somewhat past their best; the strong climbers used for this purpose are very charming. At Syon some of our old trees are covered with Roses; they do well and give little trouble. Early in the year a good portion of the old wood is cut out and the new nailed or tied in. Where nails are objected to it is an easy matter to use copper wire or painted dark wires to support the branches. Roses grown thus, even when the turf is close to the stems, if given a good start soon cover a wide space, and if allowed will rapidly run over the spreading forks and attain a great height. I do not advise them on large evergreen trees unless the latter are decayed and the branches have been cut back. Then the Rose will be at home on deciduous trees, the plants get more moisture, but even then in dry seasons they well repay copious supplies.

G. WYTHES.

GRAFTING TREE PÆONIES.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—While travelling in the United States I occasionally noticed a double and single flower on Tree Pæony bushes, and on examination found the single purple blossom came from the stock on which the double form had been grafted. I also saw the fight between the stock and the graft would terminate in favour of the stock if left alone. My attention was specially directed to the Tree Pæony in consequence of an American nurseryman asking me to enquire why no large plants of Tree Pæonies could now be had in Japan as in former times. I was told that owing to the great demand growers had decided to limit the supply of plants to not more than three buds to a plant, and advised for the first season to reduce the buds to one and to secure one good flower instead of three middling blossoms. I then enquired regarding the stock used for grafting, and was told it was the single purple-flowered variety I had seen in the United States. Since then, when I have seen a Japanese-made Tree Pæony, I have advised the owner to watch the stock and remove all suckers and side shoots in the interest of the graft. While in Australia I met two German botanists travelling at the expense of their Government to study the botany more especially of Australasia, but not exclusively, as they had spent some time in South Africa. In the course of a varied conversation Pæonies were referred to, and I expressed a surprise at the wild form of the Tree Pæony being unknown in Europe, when one of the gentlemen informed me that quite recently a French priest had settled the question. I am at present in correspondence with friends in Japan to know if the stock used for grafting is Japanese or Chinese.

Cape Town.

PETER BARR, V.M.H.

ATRIPLEX CANESCENS.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—Do you ever come across this shrub in private gardens? It grows at Kew in the same bed with the Box Thorn (*Lycium barbarum*), and partakes somewhat of its habit. There is another form, *A. Nuttalli*, with fine silvery foliage. I cannot find either of these shrubs in any catalogue of nursery stock. I fancy it is a seaside plant. I think it would be suitable for covering porches and arbours, similar to the *Lyciums*, but with the advantage of being evergreen. Perhaps a short note in THE GARDEN might be of interest. I have known the plant for some years at Kew, and it seems quite hardy there.

Richmond, S.W.

WALTER PRICE.

It is extremely doubtful whether the several shrubby species of *Atriplex* are to be found outside botanical gardens in this country. Although two or three are distinct in general appearance from other shrubs, they cannot by any means be placed in a prominent position and recommended as desirable shrubs for general cultivation. True, several are evergreen and some have silvery foliage, and these might be used occasionally as a change

in the shrubbery, and one dwarf-growing species might be accommodated in the rock garden, as it is of neat appearance and has small glaucous leaves. As flowering plants they are worthless, the flowers being minute and usually dull in colour. On the whole, they may be considered hardy, though occasionally one or two species have been injured in very severe winters. They show a decided preference for salty ground, and would make suitable plants for the coast line where many other things would not grow. They grow naturally into good-sized, dense bushes, with numerous interlacing branches; they can also be used in the same way as the common *Lycium*—for covering fences, arbours, tree stumps, or other things, and a point in their favour is that they are not at all fastidious as to soil, as they will grow well in almost pure sand. They may be increased readily by cuttings in early summer, and good-sized plants are quickly made. They do not appear to be catalogued by English nurserymen, but Mr. L. Spathe, nurseryman, Berlin, supplies several species. At Kew the following species are grown: *Halimus*, with long, rambling shoots, clothed with ovate, silvery leaves; *Breweri*, which looks almost identical with the foregoing; *Canescens*, a North-West American species, with very narrow, grey leaves 2 inches long, the flowers being followed by numbers of curious-winged fruits; *Nuttalli*, a species somewhat resembling the last-named, but with wider leaves; *Muschketowi* and *spinosus*, with small green leaves and confertifolia, a dwarf species from the Western United States. This last species is a compact grower. The specimen at Kew forms a tufted mass about 9 inches high, bearing large numbers of small, oval, fleshy leaves, which, when mature, are glaucous or grey in colour. The buds, young stems, and leaves are rose-coloured and look quite pretty contrasted with the silvery leaves.

W. DALLIMORE.

OUR NATIVE EVERGREENS.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—In THE GARDEN of March 8 a sound note is struck when you write in favour of the more extended use of our native evergreens, and all who take a pride in their garden should consider well the words of praise bestowed upon such plants as the Yew, Holly, Scotch Fir, Spruce, Juniper, Box, and Ivy. Those who read THE GARDEN cannot have failed to notice the grand effect obtained in some old gardens by the use of the majority of the plants mentioned above, and more especially of the Yew, Holly, Box, and Ivy. It is the winter effect that requires careful study in ornamental planting, as in the summer time there are so many deciduous flowering trees which keep up a succession of bloom that a good effect can be obtained with very little trouble. But from November to April the case is different, deciduous trees then being only a mass of leafless branches, while the majority of hardy evergreens are beginning to look their best. Of the seven plants mentioned, the Yew, Holly, and Box should be planted in every garden; but all three are slow growing, and compared with some other evergreens, are rather expensive to purchase. On the other hand, if they are obtained in good condition and properly planted, they go on improving, and never get into a shabby condition, as so many other evergreens do, the initial cost of which is much less. All three are also long-lived and highly decorative, a prettier sight than a large Holly covered with berries being very difficult to find during the winter months. The Scotch Fir, or, more properly, the Scotch Pine, and the Spruce can be procured very cheaply, and if planted in suitable positions, the former on a hillside and the latter in a moist lowland, will amply repay the small outlay required to plant several acres of them. The common Juniper (*J. communis*) seems to have been ousted from its position in English gardens by its Chinese relative (*J. chinensis*), which is a pity, as it is suitable for many positions that the latter is too large for. *J. communis* makes a large, spreading shrub, which is apt to get straggly, but this can easily be remedied by clipping over with a pair of shears

while the plants are young. If this is done for a year or two it will rarely be found to get out of bounds afterwards. It is not at all expensive. The uses of Ivy are so manifold in a garden that it is almost unnecessary to dwell upon them. It will be sufficient to say that the green forms are far better growers than the variegated ones, while the latter are also rather higher in price. The common Irish Ivy, which is largely grown, can be obtained in almost any size at a very cheap rate.

Bagshot, Surrey.

J. C.

WELL-KEPT APPLES.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—Can one wonder that when visitors at the Drill Hall on the 25th ult. saw the superb collection of Apples staged by Messrs. Veitch and Sons they asked "Why cannot we obtain such fruit as this is in the market?" It is, indeed, a grave reflection on our poor appreciation of all that the Royal Horticultural Society and other bodies have done to promote hardy fruit culture in this country that such questions should be asked. Well may lines of a once popular song be paraphrased thus: "We've got the land, we've got the trees, and we've got the money too." But, alas! we've not got the fruit. Whatever may be the general extension of Apple culture with us during the past twenty years, it is but too painfully evident that it has either been so misdirected as to lead to the production mostly of early maturing Apples, or else that it had been so piecemeal, spasmodic, and trifling that no appreciable effect has been produced in relation to an abundant supply of late or well-kept Apples. Now what is done by Messrs. Bunyard and Co., by Messrs. Veitch and Co., and others in the keeping of Apples in splendid condition so late as March and April shows that the good keeping is not at all difficult. But it may be pleaded that their fruit stores or houses are of too elaborate or costly a kind for ordinary growers for market sale to employ. That may be so, although a good store is available for the object in view, not for one year only, but for thirty years. However, for all ordinary keeping purposes a house of concrete walls 12 inches thick, with doors simply at either end, the roof of thick thatch, and the floor of natural soil, well fitted in every part, excepting alleys, with broad trellis shelves, would cost little and endure for a lifetime. Such a house should be 18 feet to 20 feet wide outside, and as long as needed. If, say, 100 feet long it should be possible to store 1,000 bushels of first-class fruit in it, and if such samples as were Messrs. Veitch and Sons' Cox's Orange Pippin, Prince Albert, Newton Wonder, Sturmer Pippin, and others, the entire bulk in March should be worth £1,000 at least. Such a sample of Cox's Orange Pippin as was shown on the 25th ult. still in splendid condition, firm, crisp, juicy, and fine, would no doubt fetch 30s. per bushel. It is such fruit as this we need in great abundance in the spring months, and it is a humiliation to us as a nation to have to admit that, with all our knowledge and all our resources, there is no supply. To commence the creation of such a supply we want 100,000 acres of land planted yearly for the next ten years at least, and good deeply-worked land too, in good positions, planted somewhat closely with millions of bush trees on the Paradise stock of fine late keeping varieties. In no other way can we hope ever to have a great spring supply of first-class Apples brought about.

A. D.

TWO GOOD NORTH COUNTRY APPLES.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—May I draw the attention of North country readers of THE GARDEN to the proved value of two Apples, specimens of which I enclose—viz., Bramley's Seedling and Yorkshire Greening. They have not passed the winter in any elaborate fruit room, but on the shelves of a disused dairy in an old Cumberland farmhouse. For the last twelve years I have been planting Apples, having during that time grown (in a small garden and orchard) fifty-five varieties—far too many for profit, of

course, but an interesting experiment, notes of crop, &c., having been kept. Some, such as Cox's Orange Pippin, King of the Pippins, Cellini, and Lord Suffield had to be quickly discarded; others, Keswick Codlin, Northern Spy, and Hawthornden did not canker so soon; Gloria Mundi and King of Tomkins County are under notice to quit in the autumn. For late keeping Apples, Bramley's Seedling on tall standards, Northern and Yorkshire Greening on Paradise stock are the most certain croppers here. Prince Albert is good, also Peasgood's Nonsuch and Newton Wonder; but these last will not fruit every year.

For early Apples, Stirling Castle, Golden Spire, and Pott's Seedling are always good; also Grenadier and Lord Grosvenor, but they take holiday sometimes. Bushes of the locally-raised varieties John Peel and Lowther Castle are disappointing; they grow well, but do not fruit. I should not like to depend for a living on fruit growing alone in this part of the world. The garden lies sloping to the south, 300 feet above the lake, yet more than once a spring frost has destroyed all the Pear and Cherry blossom. This year the promise of bloom buds is great, and the crop should be abundant if we get that fine season which is always being expected, and never comes—for everything in the same year. But if the Pears are spoiled, the Apples may console us, or the Plums be better than usual—only in one season (1897) did all fail. The true gardener always lives in hope, especially if he grows fruit.

Penrith.

ULLSWATER.

[The fruits were in excellent condition, and most valuable at this season of the year.—Eds.]

VIBURNUM PLICATUM.

THIS should rank second to the commoner kind (*V. Opulus sterile*), for though its flower clusters are finer and more plentiful on the branches it is not so graceful in growth, neither is it so hardy in all soils and climates. However, *V. plicatum* ranks among the very choicest of shrubs, not only for the shrubbery but for covering walls, and there is no finer clothing for a north wall or where the sun seldom reaches than this beautiful Japanese plant.

A group of it on a lawn, say half a dozen in a mass, such as may be seen at Kew, displays its beauty to perfection, for then the horizontally spreading shoots have room to develop, and in the middle of May are wreathed with snowy clusters of bloom. So far as I know the single or typical *V. plicatum* is not in cultivation here, though it is an extremely fine shrub as seen in Japan, where it grows into a tall spreading bush. The flat flower clusters were about 9 inches across, and the few sterile flowers were exceptionally large and pure white, while the perfect flowers were not inconspicuous. *V. tomentosum* of Thunberg is now considered to be the true name of *V. plicatum*, which, with *cuspidatum*, is a variety of it. *V. plicatum* is not nearly enough known and planted, but of late years the best nurseries about London have increased its culture, and now it is plentiful and as cheap as ordinary shrubs. Like *V. Opulus sterile* it may be forced into flower early, but it is not graceful enough as a pot plant compared with the common Snowball Tree. G.

NOTES FROM WALES.

JASMINUM NUDIFLORUM.

THIS Jasmine is in full bloom in many parts of North Wales, the yellow blossoms, which appear before the leaves, being very conspicuous, especially when the plant is against a wall; it is best not to prune this climber too severely, the old worthless branches being simply disposed of, and the rest tied in, a good distance apart. It is easily propagated from cuttings inserted in sandy soil and covered with a hand glass until well rooted.

BEGONIA PRESIDENT CARNOT.

Possibly this Begonia occupies a place of honour among our indoor plants; its pendulous flowers of a rosy pink colour and its stately habit mark it as a plant unique amongst its fellows. It is easily propagated by cuttings of the young growths, taken about March or April, and inserted in pots of sandy soil in a temperature of 65°; withhold water until growth commences.

LEPTOSIPHONS.

These constitute a genus of hardy annuals, natives of California. All the Leptosiphons are well adapted for rockeries, edgings, &c. They are characterised by having their flowers in pretty clusters crowded upon dense tufts of feathery foliage, about 10 inches high, their colour being usually purplish rose with a blue tint, although there also exists a pure white variety. The best known are *L. androsaceus*, *L. aureus*, and *L. roseus*.

OBELISCARIA PULCHERRIMA.

This handsome hardy annual is a very useful plant for the embellishment of mixed borders, &c. The flowers are of a rich brown-crimson, golden edged, produced in July; it stands about 18 inches high.

Brynbella, St. Asaph.

JOHN DENMAN.

GARDENING OF THE WEEK.

ORCHIDS.

DENDROBIUMS.

MANY of these have commenced growing, and those requiring more rooting space should be repotted, otherwise a surfacing with fresh sphagnum moss is all that is needed. Great care is necessary in liberating the plants from their receptacles, especially those grown in baskets; all dead and decaying roots should be cut away, worn out material removed, and the plants so placed in the pots or pans that their bases are level with the rim. Fill two-thirds deep with crocks, and the remaining space with equal proportions of peat and sphagnum moss, pressing this moderately firm. Dendrobiums will also root freely in moss alone. Take care that the base of the growth is not buried in the compost, and water should be sparingly applied until the young shoots are well advanced and the new roots have taken to the fresh material.

PROPAGATION OF DENDROBIUMS.

It is advisable to increase the number of plants whenever possible, especially the more valuable kinds. The majority may be increased by severing the rhizomes just before the plant commences to grow. Take a plant having, say, six bulbs, cut between the third and fourth, and the fourth bulb will generally produce a young growth a few weeks after the lead has commenced to grow. This may remain and grow on undisturbed for one season; should both begin to grow about the same time they may be separated at once if required and potted up in the usual way.

DENDROBIUM NOBILE,

wardianum, crassinode, Falconerii, others of similar habit, and many of the hybrids derived therefrom are readily increased by cuttings. First remove some of the old pseudo-bulbs, selecting those with dormant eyes, and lay them on sphagnum moss in a warm, moist, and shaded propagating house. If they are kept moderately moist the dormant eye will quickly produce a young growth, which should be severed, together with a piece of the old bulb as soon as new roots begin to make their appearance at the base, and be potted up in the usual way. Put them in small, well-drained receptacles, using chopped sphagnum moss as a compost. Keep in the same warm, moist, and growing temperature until the little plants have become well rooted, after which they should be gradually inured to more sunlight and receive the same treatment as other growing Dendrobiums.

There is another system by which numerous young growths may be produced upon many Dendrobiums of the



CHINESE GUILDER ROSE (*VIBURNUM PLICATUM*) AT KEW.

noble section and numerous hybrids. When the eyes are first seen to be swelling the usual practice is to keep the plants dry at the root and in a moderately cool temperature until the flower buds are visible; then water them and remove to a warmer temperature for the flowers to expand. Instead of being treated thus, as soon as the eyes begin to swell remove the plants to a warmer temperature and keep them moderately moist. Instead of the plants flowering well, as they would have done under the general treatment, it will be found that many of the eyes will produce young growths, which should be severed from the bulb and potted up in the usual way as soon as new roots are visible at the base.

F. W. THURGOOD.

Rosslyn Gardens, Stamford Hill, N.

THE KITCHEN GARDEN.

LEEEKS.

To ensure good specimens by early autumn prepare trenches 18 inches wide 2 feet deep, with the bottom well broken up. Place about 4 inches of good half-rotted cow manure in the bottom, and fill up level with the surface with a compost of good fibrous loam, leaf soil, old Mushroom bed manure, and road scrapings in equal proportions, to which should be added a little finely-sifted old mortar rubble and bone-meal—about half a peck of each to every barrow-load—mixing the whole thoroughly.

The plants, which should have been sown as previously advised and carefully nursed along, should by now have been thoroughly hardened and ready for planting whenever the weather is favourable. From the middle to the end of the present month will be early enough providing care and attention are bestowed upon them while they are growing in the pots, otherwise if from any cause a severe check is given, especially by allowing them to become dry at the roots, in all probability many will run to flower towards the end of the summer. Plant with a garden trowel, disturbing the roots as little as possible. Every inducement should be given the plants to start away into new growth as quickly as possible by frequently sprinkling in dry weather and giving shelter in frosty and stormy weather.

BETROOT.

Though too early to make the main sowings, small breadths of long and Turnip-rooted kinds should be sown in a warm part of the garden for early supplies. Carter's Crimson Ball is an excellent variety, as it matures quickly and the flavour is good.

SEAKALE.

Every effort should be made to prolong the season of this delicious vegetable by growing and blanching it under a north wall. In this way good heads may be ensured until the end of May, and to securely blanch at this season heap over the crowns a good quantity of fine cinder ashes and soil. As soon as the growth shows signs of breaking through it will be fit for cutting, and the quality will be all one can desire. Make new plantations for supplying roots for next season's forcing; a liberal treatment is necessary to procure strong crowns by early autumn. The ground should have been thoroughly trenched and well manured during the winter, and should now be in good condition for receiving the young plants which have been prepared and grown under glass in boxes. These should be planted with a dibber, allowing a distance of 1 foot from plant to plant and 18 inches between the rows. Place a few ashes round each and reduce the shoots to one, of course leaving the strongest. Immediately these begin to develop keep the soil frequently stirred between the plants, and good drenchings of farmyard liquid manure, well diluted, will be very beneficial during the growing season.

VEGETABLE MARROWS

which were raised early and planted in frames will need constant care and attention. Every inducement should be given them to make a sturdy, short-jointed growth. Syringe and shut up fairly early, and cover the glass at night. The female flowers should be fertilised in the same way as Melons and Cucumbers to obtain a good crop, and add a slight

mulching of warmed soil after this has been ensured. Another sowing should at once be made in small pots for later supplies, also Ridge Cucumbers, where these are likely to be in request.

E. BECKETT.

Aldenham House Gardens, Elstree, Herts.

THE FLOWER GARDEN.

A BORDER OF BLUE FLOWERS.

DURING late summer and autumn yellow is such a predominating colour in the flower garden that a border composed almost entirely of blue flowers comes as an unexpected surprise and gives a charming and delightful effect. If the border is situated in a partly-shaded position the effect is enhanced, as this colour is not seen at its best in a strong light. Last year I arranged such a border here—160 feet long and 20 feet wide—with an eastern aspect and backed with large trees, which, however, were some distance away. Throughout the whole length I placed supports of sticks—some cone-shaped, others upright, and some almost recumbent—around which I planted blue varieties of Sweet Peas, blue Convolvulus, and Ipomæa rubro-cœrulea. These were so arranged as to avoid any formal design, while in addition I had poles covered with

CLEMATIS JACKMANI,

which, having been planted the previous season, gave a profusion of flowers and greatly added to the beauty of the effect. Then, again, I placed informal groups in various sizes and shapes of Delphiniums, especially the blue hybrid ones that grow 5 feet to 6 feet high, and the small one, Queen of the Blues, which grows only to the height of about 2 feet, but possesses the finest blue colour of any flower I know.

ANCHUSA ITALICA,

a very showy perennial, but if sown early flowers the same year, is another valuable plant suitable for such a border. Groups of blue Campanulas, Anagallis Phillispi, Catananche cœrulea, Commelina cœlestis—these two, though perennials, flower the first year if sown early in boxes—Lobelia, Phacelia, blue Swan River Daisy, Trachymene cœrulea, blue Verbenas, Lupines, Cornflower, Heliotrope, and also a few perennial plants such as Echinops, Eryngium, and Platycodon grandiflorum completed it.

THE IPOMÆA

referred to, though perhaps not hardy enough for growing out of doors in the northern part of the country, does admirably here. During June, July, and August this particular part of the garden was at its best, and elicited much admiration. In arranging the groups care should be taken to have the different shades blending harmoniously.

IONOPSIDIUM ACAULE (VIOLET CRESS)

is another charming little plant eminently suited for growing in chinks of steps. The Ionopsidium is even better fitted for this work in some respects than Menthas, Linarias, &c., because it flowers eight or nine weeks from sowing, and afterwards sows itself freely, reappearing year after year. If sown now it will flower in June, and will last a considerable time in beauty, then seed, and fresh seedlings will give a late autumn display. It is a small Portuguese annual, about 2 inches high, with dense tufts of violet flowers, and it is a most desirable plant for various uses in the garden.

HUGH A. PETTIGREW.

Castle Gardens, St. Fagans.

FRUIT GARDEN.

MELONS.

As the fruits upon early plants approach maturity they must have a night temperature of about 70°, accompanied with a circulation of fresh warm air, which will improve flavour. Withhold liquid manure, and lessen, without permitting the soil to become sufficiently dry to cause the foliage to flag, the supply of water both at the roots and in the atmosphere. Mismanagement in this respect will cause the fruits to split. These should be gathered as soon as they commence to crack around

the foot-stalk, and be placed in a warm, airy place to thoroughly mature. When all the fruit is gathered clear away the plants, cleanse the house, and replant when the compost has been either entirely or partially replenished and become warm.

MID-SEASON MELONS.

Plants to produce a summer supply of fruits may now, and subsequently in succession, be safely planted in pits or frames that are not even furnished with hot-water pipes, provided they have a bed of fermenting material able to supply the necessary amount of bottom heat. Make the beds firm and well up to the glass, placing a ridge or hillocks of compost, running from end to end of the pit, somewhat nearer the back than the front. After the soil has become warmed place two plants, which should have been previously stopped, at equal distances under each sash, and firmly plant them. Free the plants from all leading growths except the two strongest, training one to the back and the other to the front of the pit, and subsequently thin and stop lateral growths as necessary to admit of light and air. Keep a moderately dry atmosphere during the flowering season, and when sufficient fruits have been set for a crop—say, three or four to each plant—add to the ridge a firm layer of fresh compost. Attend carefully as required to watering, supplying weak tepid liquid manures at the same time. Keep the soil dry round the collar of the plants. Ventilate early on bright days and freely in hot weather, avoiding cold draughts, and maintain a warm night temperature by closing early, when the plants should be well syringed with tepid water. Plants in pits or frames not provided with hot-water pipes will be the better if protected at night by mats.

LATE VINERIES.

Vines in these are now making rapid progress, which will necessitate disbudding and stopping of shoots. Not only is this sometimes neglected, but frequently the laterals are trained far too closely together, and both the fruit and wood suffer in consequence. Bring the laterals, once they are sufficiently firm, gradually down to the trellis, secure them, and stop sub-laterals before the flowers expand, so that the Vines do not receive a check during the flowering period by their having attention in this way. Maintain during the flowering season a night temperature of about 65° for such varieties as Alicante, Lady Downe's Seedling, Appley Towers, and other free-setting varieties. Muscats of all kinds should have 5° more.

POT VINES.

Where the fruit is on the point of changing colour give weak liquid manure, carefully regulating the temperature. Should red spider appear at once sponge the affected foliage, and persevere with this. When the fruit commences to change colour preserve a moderately dry, warm atmosphere by damping the floors, &c., less frequently, leaving the ventilators slightly open at night and freely ventilating the structure in mild bright weather.

THOS. COOMBER.

The Hendre Gardens, Monmouth.

INDOOR GARDEN.

ZONAL PELARGONIUMS

for winter flowering, if sufficiently well rooted in small pots, may be transferred to 3½-inch pots. The compost used should consist of three parts fibrous loam and one part leaf-soil, with some dried manure and coarse silver sand mixed with the soil. Pot rather firm, so that they will make short jointed growth. Place the plants in a temperature of 50°, keeping them near the glass in a frame or low pit. Give a little shade during sunny days until they have made fresh roots, when they may be fully exposed to the sun.

IMANTOPHYLLUMS

that have finished flowering may be divided or repotted. These plants are most useful in 6-inch and 4½-inch pots. In repotting use the same compost as advised for Pelargoniums. Pot firmly, and afford them a temperature of 60°, syringing them freely. Plants that do not require repotting

should be top-dressed, but the loose surface soil should first be removed and a mixture of good loam, manure, and bone-meal be well pressed among the roots.

CHINA ASTERS.

Sutton's Giant Single China Aster for pot culture is a most beautiful and really valuable Aster. Only those who have grown them can have an idea of their usefulness for greenhouse decoration when flowering plants are somewhat scarce. Sow thinly in seed-pans filled with loam and leaf-mould with plenty of sand. Just cover the seeds with finely-sifted soil, put a sheet of glass over the pan, and place in a warm frame. When the plants have made three leaves they should be pricked off into frames on a bed of ashes. When the Asters are about 3 inches high transfer them singly into their flowering pots, $\frac{4}{8}$ -inch or 6-inch. Plunge in ashes out of doors when there is no danger of frost. They can be sown in separate colours; bluish-white and rose are the best. They may also be planted in a border, carefully lifted with balls of soil just before the flowers open, and then potted. East Lothian Stocks may now be sown and treated in the same way.

HERBACEOUS CALCEOLARIAS

that have filled their pots with roots and are showing flower spikes should have occasional waterings with weak liquid manure. The plants should be given a slight syringing on bright days. Green fly is a great enemy to these plants, and must be destroyed by fumigation as soon as it appears.

GENERAL REMARKS.

Plants that are well rooted need constant attention and careful watering, and those that are coming into flower, such as Schizanthus, Mignonette, and Gladiolus, should be neatly staked and have manure and soot-water given them occasionally.

JOHN FLEMING.

Wexham Park Gardens, Slough.

OLD CORNS OF CYCLAMEN PERSICUM.

I HAVE often admired Cyclamens, but have never succeeded very well with them, as my plan was either to sow seed every year, or, if I kept a corm, to dry it carefully after it had done flowering. Lately, on a visit to Dorsetshire, in the garden at Milton Abbey (Mr. Perkins, gardener), I found a different system followed, with, to me, wonderful results. I send you a photograph of one of the plants which had ninety-two blooms out, besides many buds, and which measured 22 inches across one way and 21 inches the other. The corm is a four year old one, has never been really dried off, and has been grown on each year. This system is adopted by Mr. Perkins with wonderful results. Perhaps those of your readers who have suffered as I have from only having small plants may find the information interesting.

E. HANBURY.

KEW GARDENS AND THE SMOKE NUISANCE.

AN interesting interview with Sir W. B. Richmond, R.A., appeared in the *Daily News* recently; it is as follows:—

"Sir W. B. Richmond, R.A., talked yesterday with a representative of the *Daily News* about the effect of Brentford smoke on Kew Gardens, the two places, as Londoners at least know, being face to face, with the Thames between. The conversation turned on a previous one between the journalist and Dr. Henry Bott, Medical Officer of Health for Brentford, who declared that his town did no harm to the gardens. Of course, Brentford was occasionally smoky. As a manufacturing place it could not help being so, but of late at least it had been inoffensive except during the brief periods of 'firing up.' The damage to the gardens was done by London. When an east wind blew it brought

the fumes of the metropolis to Kew and scores of other up-river places, and if the great city put on a mantle of fog the hem at least of the garment was sure to rest on Kew and Brentford. Everybody knew what that meant—a thick cloud of sulphur and fine soot. He was aware that Sir W. B. Richmond was leading a crusade against Brentford in respect to its smoke, but the funny thing was that the managers of the gardens did not agree with him. At any rate, they had made no complaint lately.

"Sir W. B. Richmond was found in his studio at Hammersmith making an oil-colour sketch for a large painting. As he went on with the work he listened to a repetition of Dr. Bott's statement, and then said: 'If Sir W. Thiselton-Dyer has not lately complained to Brentford that it was injuring the gardens that is because he was tired of complaining. The Kew people have been making representations to the authorities on the opposite side of the river for ten years, and always without result. The fact is that these wretched manufacturers, not at Brentford only, but elsewhere as

told that I should get into trouble, but I don't care a hang about that. We are going on.'

"What do you think of the statement that the smoke which damages Kew Gardens comes from London, not Brentford? 'It is—well, it is totally inaccurate. You can see the track of the Brentford smoke in Kew Gardens. About two-thirds of the gardens are affected. In the remaining third the trees are quite green, which they are not in the part usually touched by the smoke. We have had photographs taken of the smoke cloud. It is frightful. It is a crying shame that the finest horticultural gardens in the world should be blighted by a manufacturing district which at times is as bad as Sheffield. There are many delicate plants which can no longer be grown at Kew since Brentford has become so smoky. You should see what a great pile of documents Sir W. Thiselton-Dyer has sent to the Government, showing the damage done by Brentford smoke. The society has helped him, and he says we are the only people who have given him the slightest assistance. Our inspector is at the gardens constantly.'



CYCLAMEN PERSICUM (CORM FOUR YEARS OLD).

well, are all in a ring, and they do not care what harm their smoke does. They will have to care though, because the Office of Works is going to give instructions for their prosecution. The Act of 1891 is very simple, but the magistrates would not convict under it until I founded the Coal Smoke Abatement Society. The *Daily News* has taken a good deal of interest in the subject, and I am glad of it, because public opinion has been absolutely dead with regard to the smoke nuisance. The public hardly seemed aware of the fact that there was a law against it. Now, however, people are being roused, and are saying, 'If there is a law, why in the name of fate is it not enforced?' Well, the real reason is the enormous amount of jobbery in connexion with local authorities. Since I went on the Hammersmith Council I have had tremendous difficulty, but I have hustled them up to such a degree that now we have not a bit of smoke in the place. The Twopenny Tube used to give out a lot of smoke, but it does not now. Our society has cost that blessed company one thousand five hundred pounds.'

"How they must love you? 'Yes, I have been

"Your crusade against smoke is not confined to Kew and Brentford?' 'Oh, no. We act all over London. Our society, with only two inspectors, has caused the imposition of more fines than the County Council and all the Borough Councils put together. We have never lost a single case, and we have obtained fines amounting altogether to about one thousand five hundred pounds. I will undertake to say that if I were like the German Emperor I would in one year stop the issue of black smoke from every factory in London. Look at West Ham! We are tackling it now. There are one hundred chimneys belching out smoke day and night within an area of half a mile. Smoke does not mean dirt alone. It means injury to human health. It often means death. People do not seem to realise that. Sir William Broadbent said the other day that a London fog was a fatal turning point in many illnesses, especially when there was a weakness of heart. It caused hundreds of deaths.'

"Do you think that the chimneys of private houses do much harm?' 'They may do some harm, but to say that the evil we complain of is

caused by private chimneys is nonsense. We live in an enormous manufacturing district—the greatest in the world. Practically it extends from London to the mouth of the Thames. Its fumes overwhelm us when an east wind blows. To show you that the offenders are not house chimneys, I will tell you a story. Five years ago I was staying with my old friend the late Lord Wantage, at Wantage, sixty-four miles from London. The thermometer stood at over ninety degrees in the shade. Is it likely that with such a heat anybody would light fires if they could avoid it? No. Well, I went on the Downs, and saw a great wall of smoke coming from the direction of London. In course of time I was enveloped in it, and I smelled all London. This occurred on three consecutive afternoons. There was a shepherd on the Downs, and I said to him, "What does this mean?" He replied, "We call it London dirt. When the wind comes south by east and there is snow on the ground, the snow is turned black." Think of that. A place sixty-four miles from London. Of course Reading lies between, and it helped, but London did the most. How much further the cloud travelled I do not know, but it did not stop at Wantage.

"Warmed by his subject the artist had ceased painting for several minutes, and with palette and maul-stick in hand was standing while he talked with much animation. As the journalist turned to go Sir William, pointing to a basin of decidedly dirty water, said, 'That is from the cleaning of one picture. I have good reason to know what smoke does.'"

THE CULTIVATION OF VIOLETS.—II.

(Continued from page 234.)

SUMMER TREATMENT.

HAVING selected and put in sufficient offsets, the next step is to select the most suitable position and get it in readiness by the time the plants are ready for placing out, which will be during April. As we grow large quantities purposely for winter flowering in frames we are very careful about their summer quarters, especially during recent seasons. Owing to the continued heat and drought we have found the best positions are borders running north and south, with a good slope towards the north.

The borders are about 8 feet wide on either side of a grass path, and at the back of these there is a row of standard fruit trees. In this position we find that the plants receive a certain amount of sun and shade, but as the ground slopes from the south the sun never strikes them with full force. When grown behind a north wall where no sun can reach them the plants certainly grow freely and do well, but towards autumn they are apt to become rather gross, the large leaves on long stalks making them somewhat less suited for shallow frames than those of more compact habit.

Violets delight in a rich and rather light root run, therefore thoroughly decayed manure should be used and dug deeply into the ground. This should be prepared at once; then, just before planting, the surface soil should be levelled and made moderately firm, and all will be in readiness to receive the plants. In dealing with cold retentive soil extra labour and material should be employed. In a very cold district we have had to form slightly raised beds, working in plenty of leaf-mould and sand, which proved better than crude manure. We mention this to show that the soil and situation should be studied and then dealt with accordingly.

Defer planting until the stock is well rooted, and put in each plant with a ball of earth. A thorough soaking should be given a few hours previous to lifting when the ground is dry. The plants should be put out quite 15 inches apart to allow room for hoeing or mulching between them. It is a wise plan to plant and mulch at the same time, so that the soil about the roots remains uniformly moist and reduces the labour of watering to a great

extent during a spell of drought. Any material may be used for the purpose—decayed manure, partially decayed leaves, spent Hops, or that from an old Mushroom bed. We prefer the latter. By early mulching weeds also are kept in check, which is no small advantage.

The after treatment will consist in dewing overhead after hot days, and keep all offsets pinched off so as to form one strong central crown. Syringing each evening is necessary during hot weather, as the foliage is quickly attacked with red spider, and moisture is the only sure means of destroying the pest. These remarks bear chiefly on plants that are to be lifted in September and placed in frames, but many growers will not have the latter, and then, so as to get flowers as early as possible in spring, they resort to planting the roots at the foot of a warm wall.

This is a very good plan, but it has decided drawbacks unless planting is done at the right time, that is, in autumn. Plants situated near brickwork, where the sun strikes them, cannot grow freely during summer, and they would quickly be eat up with red spider, and also introduce it to the trees above them. It is certainly better, therefore, to grow the plants in cooler quarters and remove them to the foot of the wall in autumn.

RICHARD PARKER.

(To be continued.)

THE FERN GARDEN.

JAPANESE FERN-BALLS.

IT is now nearly twenty years since these were first imported into this country, and among the earlier importations were some made up in various fantastic designs, but within the last few years these have been imported in larger quantities and in a greater variety of designs. Some of them are, perhaps, more curious than beautiful, many of the fancy designs being very effective; but it is the round balls which prove the most satisfactory, these being better suited for holding moisture and for the roots to penetrate. *Davallia Mariesi* is used for making these designs, but it is now often referred to as *Davallia bullata*. The true *D. bullata* has thicker rhizomes, densely clothed with reddish brown scales, and in *D. Mariesi* the rhizomes are slender, and on the points of the rhizomes the scales are silvery white, changing to grey. The slender rhizomes are flexible, and adapt themselves well to twisting round and making the various designs. They also possess much vitality. It is a deciduous Fern, and is imported while destitute of fronds. It often comes to hand in a very dry state, and it is surprising how soon they start into growth when moistened and placed in a little warmth. If properly cared for they will make better growth the second year than when first imported, and, although better known in the forms referred to above, it makes a good pot plant. When raised from spores compact little plants are formed, which are useful in quite a small state. Although deciduous it remains dormant, but in a very short time under genial conditions the new fronds will start almost before the old ones are off. I may add that when the fronds ripen they change to a pretty bronzy yellow, and are often used in various floral arrangements.

A. HEMSLEY.

ADIANTUM PEDATUM (L.).

IN a communication which appeared in THE GARDEN of the 8th ult., Mr. Drury refers to this species as being perfectly hardy and yet of delicate form, and says we may see a strong specimen in the rock walk at Kew. The picture shows two fronds, the taller overlying the shorter. Mr. Drury says the plant "is a native of North America, even of Canada, so that we have no frosts here capable of hurting it," and he gives instructions for cultivating it both indoors and in a sheltered position in a garden.

It is strange that Mr. Drury should ignore the fact that Asia contains many habitats of this Fern, but this is probably because the nurserymen here recruit their stocks of it solely from America, as Mr. Birkenhead many years ago told me. But the books all mention the Himalayas as a habitat, over a long range from west to east; and Manchuria and Japan are also well-known habitats. In my "Ferns of N.W. India, &c." (now being published in the Journal of the Bombay Natural History Society), I grouped the known Indian localities as follows (slightly abridged):—

Kashmir.—Ring Nala, 8,000 feet; Kishenganga Valley, 7,000 feet to 8,000 feet.

Punjab.—Hazara District (Siran and Kagan Valleys), 12,000 feet; Chamba State (Pangi, 7,000 feet; Ravi Valley, 8,000 feet).

Simla Region.—Hattu Mountain and vicinity, in forest, 8,500 feet to 10,000 feet; Raiengarh Forests, 8,000 feet.

North-western Provinces.—Garhwal, 8,000 feet to 10,000 feet; Kumaun, 8,000 feet to 9,000 feet; Nepal, West, 9,000 feet to 10,000 feet.

Sikkim.—Scattered; not plentiful.

In a recent list, published in the Proceedings of the United States National Museum in 1901, the North American habitats of *Adiantum pedatum* are thus given: Nova Scotia to British Columbia, south to Georgia, Mississippi, Arkansas, Kansas, Utah, and California; also in Alaska. *Adiantum pedatum* is no doubt much more common in America than in Asia, but the forests of the Himalayas at high altitudes are not easily traversed, and there may be plenty of this Fern hidden in them. I gathered it in the Simla Region at about 10,000 feet altitude, in open shade, where it must often be deeply buried in snow.

Kew.

C. W. HOPE.

BOOKS.

Flowering Trees and Shrubs.*—

This is a revised edition of a useful book upon the subject it treats of, but it will not satisfy those who wish to know as much as possible of the beautiful things amongst hardy trees and shrubs. It is, however, a good guide, and the tables of shrubs in flower during each month of the year are well compiled. We notice slips in spelling that should not be seen in a revised edition, such as *Cratogeomys Carieri*, *Lonicera Ledebourri*, *Desfontanea spinosa*, and so forth, but the book has its value. The information is conveyed in a clear and concise way. A few coloured plates are scattered through the pages, but the artist, Miss Gertrude Hamilton, has our sympathy; the reproductions are not good.

"Farm and Home" Year-book.†—

We much regret that at the time this capital annual reached us, earlier in the year, our notice of it was overlooked. It is quite excellent, full of valuable tables and miscellaneous information for the farmer; indeed, no country dweller, of whatever station, could fail to find it a mine of useful information. It is more than a mere annual, a thing for one year only, containing as it does concise information equally good for any and every year on stock management in health and disease, milk testing, cheese and butter making, manure buying, pastures and pasture grasses, land surveying, compensation on quitting, ground game, income-tax, rating, local government, gardening, injurious insects, &c.

Kerner's Natural History of Plants.—Messrs. Blackie and Son contemplate a reissue of Kerner's "Natural History of Plants," a work which in its English form is identified with the name of Professor F. W. Oliver. The new edition, which will be issued at a considerably reduced price, will be substantially a reprint of the original English edition, with a few necessary alterations and corrections.

* "Flowering Trees and Shrubs." By E. H. Hoare. Price 7s. 6d. Arthur L. Humphreys, 187, Piccadilly.

† Edited by D. E. Thomas. Published by W. Robinson, 17, Funnival Street, Holborn. Price 1s.

THE GARDEN

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GARDEN PATHS.

LOOKING round at various gardens it is seldom that one does not see something connected with the paths that is open to criticism. In many gardens there are too many. It should be remembered that the paths in a dressed garden must be neatly kept, though this does not mean that they must always be surfaces of red gravel. Indeed, there are many persons, with whom we entirely sympathise, who dislike the "crunchiness" of the best gravel and its strong foxy colour when new, and who much prefer a path of quiet-coloured sand of any kind that will bind sufficiently. Besides the sharp crunching sound there are other discomforts that affect many garden paths. In holding clay soils, to avoid proper under draining, paths are often made too much curved up in the middle for comfort in walking. Such a path is improperly made; it should be drained below, and if of some width and on a slope it will want occasional grated pits at the sides leading to the under drains.

In small gardens, where the flowers are near the house, and even in larger ones, where the soil is troublesome, it is an excellent plan to have the paths of stone flags or of hard paving brick. Such paths are not only of great comfort for dry walking, but when once laid are saving of nearly all after labour, for they do not have to be rolled or weeded or re-made, and if they come up to a lawn edge that edge need never be clipped and cannot get out of shape.

Who does not know the discomfort of the wretched little paths a yard wide, so much rounded that something akin to a gymnastic feat is needed to keep one's balance, and in which flints the size of a fist have worked up into projecting nodules that make the path a way of pain and danger. Another worrying path is not unfrequent in seaside places, where it has a coating of fine loose beach pebbles that crunch and scatter and are fidgetting and unrestful. There is a delightful repose about the flagged or bricked path besides its great merit in the need of little labour.

Another defect may commonly be seen in paths when they have lost their original shape and intention, and where the error has become aggravated till their vagaries have grown into something quite absurd, and where they exist and have to be kept and trimmed in places where they are no longer wanted. One hard

path round garden and shrubbery is often enough in a moderate garden, a private winter walk giving access to the chief part of the grounds. In summer, when it is pleasant to saunter and explore, grass under foot is better than gravel. Then it is seen that the many hard paths are not wanted, and the multiplication of them is only a source of extra expense in upkeep or a diversion of labour from more useful channels.

Paths also get out of level. If at the end of a terrace there is a flight of steps the path level should come true with the top step, not two inches below it, leaving an inner bare edge to the step that was never meant to be seen. The same thing should be watched for at the bottom of the flight, where the path level should be kept at the same height from the first step as the first step is from the second. In sweeping paths a little grit is carried away and rain carries off more, so that the tendency is for the surface to be lowered. The careful gardener will watch this, and also see when a path comes at the edges of a lawn that the right height of path level, about an inch and a half, is maintained between its own and that of the lawn.

The true character of the path also is often misunderstood, for a well-kept and stiffly-edged garden path is out of place in a wood or any woody place that is near the garden, just as in a rock garden a hard gravelled path is out of character. Here we want the paths to be something like a natural mountain track, with the little plants growing upon the edges.

OTHER PEOPLE'S MISTAKES.

THERE is a deeper depth of humiliation in some failures for the unsuccessful gardener than can be paralleled otherwise than by the presumable feelings of the broken-down motor-car being dragged through a gaping town by a cab horse. What the circumstances are that lead to such a state of feeling it is unnecessary to state; most of us can generally supply some that are tolerably to the point from our own inner consciousness. I do not wish to spread out for general obloquy that triumphantly conceived theory, for example, that let to an absence of Sweet Peas from this garden last year; nor do I intend to gratify anyone who was not in a position to look over my garden wall last September with an account of that parterre's appearance after I had decided that leaving it to itself for two months was preferable to placing it in charge of a strange artificer. I desire rather to seek a consolation and some selfish relish in pointing out a few mistakes I have observed in other people—all

of them I hasten to add much better gardeners than myself. A lady I know, who is really a most capable gardener, for example, persists in thinking that if she tells her gardener (by the day) to plant a certain root in a certain place, all her ends are served as well as if she put the thing in the ground herself. I happened to see that man plant a consignment of Red Hot Pokers from Holland on one occasion, and this was the way he did it. He drove his spade into the ground—which was hard and heavy—in the ordained spot, threw a little leverage on the handle, and stuffed the unhappy Pokers down the cut before withdrawing the spade. Then he stamped round them, and was perfectly satisfied with himself, and his part owner has perfect faith in him.

Here, again, is a mistake I observe in most of my (amateur) garden-loving friends. Because their highly paid first of four or six or ten as the case may be, produces first-rate early Strawberries and has a merry hand for Peaches and Melons, he is allowed to subordinate the flower garden completely to his precious precocities. Did you ever know a gardener who was equally good at flowers and vegetables? No more does he exist than the cook equally expert and enthusiastic over meats and puddings. On the other hand, the autocrat who shows Roses and Fuchsias is apt to be sadly behindhand with his new Potatoes, which leads me on to another vast, glaring, mistake. Why does nearly everybody with a garden and staff of gardeners want everything early? Forced fruits and vegetables are universally allowed to be rather tasteless and very inferior to the same productions in their natural season, and, although in a few cases the forcing is for the less culpable purpose of extending the time during which greedy people can eat their favourite delicacies, in many the article when it comes along in its due season, ripe and rich with its own properly matured juices and flavours, will not be even tolerated—the jaded appetites are tired of it. I feel sure there are many people who would eat Gooseberries (raw) if they could get them in January and at no other time. The craze for earliness, which is beautifully exemplified in a catalogue of vegetable seeds sent out by at least one very leading firm, where in almost all cases these are recommended to be sown from four to eight weeks earlier than is suggested by even so fashionable a standard guide as the delightful "Century Book," is like the wish to have garden flowers like Primroses and Campanulas, long before their time, in greenhouses where beautiful things that cannot be grown in the garden might be accommodated. I know perfectly well that in saying so I am digging straight into the hornet's nest of the enormous majority ready to snub me most effectually from the stinging superiority of their high position and long experience; but such as they are "them's my sentiments," and this is a country where the policeman harmlessly passes the house of the free speaker. The scientist

however, I have for a noble bulwark, since he has repeatedly declared that the immature juices of fruits and vegetables ripened otherwise than by natural means do not exert the same beneficial influences on the eater as if he were content to wait until the sun and the winds of heaven had worked their will on his diet.

A mistake that not only people with large but people with very little gardens often make, is in being too open and straightforward. A garden where you cannot go round a corner and find something new is a garden deady dull, for you see the whole of it at one eyeing, and there is nothing to look forward to, and no variety. Even in the smallest garden it is easy to have a bank of flowering shrubs or a Rose trellis, behind which there is a path and a border not visible from the garden's entrance and entirety. And in those large parterres where the same absence of reticence prevails, as it frequently does, nothing can be easier than to create the charm of mystery, novelty, and final surprise that is one of a garden's sweetest allurements. There are hosts of queerly mistaken notions floating about that amateurs get hold of and pass on from one to another. A list would be wearisome, but the idea that Roses want clay may be instanced. I have seen a bed of Roses deprived, if not of life, at any rate of any blooming powers, by being heavily dressed all over its surface with blue lias clay in a more or less solid mass. Strawberries also, since there is an idea about that clay suits them. Another notion and perhaps the most mischievous of all, is that (1) Rose pruning is a darkly mysterious operation, very difficult and recondite, and (2) that, nevertheless, the, or any, gardener by the day, week, or year (as long as he be only a gardener by profession), thoroughly understands how to do it.

M. L. W.

NOTES OF THE WEEK.

FORTHCOMING EVENTS.

May 3.—Meetings of the Royal Botanic Society, Société Française d'Horticulture de Londres, and the German Gardeners' Society.

May 6.—Royal Horticultural Society's Committees meet at the Drill Hall, Buckingham Gate. Meeting of the National Amateur Gardeners' Association.

May 7.—Royal Caledonian Horticultural Society's Spring Show at Edinburgh (two days).

May 8.—Royal Gardeners' Orphan Fund Annual Dinner at the Hotel Cecil.

May 20.—Exhibitions of the Royal National Tulip Society (Southern Section) and Royal Horticultural Society, both at the Drill Hall.

May 21.—Ancient Society of York Florists' Exhibition. Royal Botanic Society's Meeting.

Spring flowers at Belvoir Castle Gardens.—These, we are informed by Mr. Divers, will be at their best from April 28 to May 12. A larger and more select collection has been got together during recent years, and the flower gardens and woodland walks are all open to the public (free) daily. Mr. Divers is always pleased to meet visitors who are interested in gardening. Orders for admission are not required.

Vegetable Marrows in frames in spring.—To get an earlier supply of this useful vegetable frame culture may with advantage be resorted to. Few plants give a better return if such varieties as Perfection or the small round Pen-y-Byd are used. When grown in frames much heat is not required; indeed, too much warmth means a weakly plant and few fruits, as the plants grown thus fail to set freely. We have obtained the best results from what are termed movable frames, that is, those placed over a warm bed of leaves or manure, strong plants in 4½-inch pots having been raised for the purpose. Plants grown thus

are valuable for later supplies. The Marrows, being strong growers, should not have too rich a root run, but this does not mean the plants do not require food; indeed, when fruiting freely they delight in liberal supplies of liquid manure. In frames the plants should be induced to perfect the first fruits that set; indeed, it is advisable to fertilise the early flowers and stop the points of strong shoots. The varieties mentioned have short points, and are well adapted for frame culture.—G. WYTHES.

Great Daffodil show at Truro.—As our report shows, this show was in every way a success. So numerous were the entries—there being eight in the premier class and from ten to thirteen in some of the others—that many of the exhibits had to be staged so close together that they were not seen to advantage. The Royal Horticultural Society was represented by the Earl of Ilchester, the Rev. G. H. Engleheart, Mr. A. H. Pearson, and the Rev. W. Wilks. The influential executive committee was composed of the most noted flower-lovers of the county, and the arduous duties of the hon. secretary were, as usual, performed by the Hon. John Boscawen. It was an interesting exhibition, in which Mr. Shilson's Rhododendrons were a beautiful feature.

A valuable late Cherry in the North.—I have during the past few seasons noticed enormous crops of a beautiful late Cherry grown in the North under the name of Late Duke, but Late Duke, in Dr. Hogg's "Fruit Manual," is a different fruit as regards the growth, and is quite distinct with me, the growth being closer and not unlike that of a large Morello. I think the late Cherry referred to must be Ronald's Late Duke, as the fruits are large, the trees never fail to crop, and are most valuable for both dessert and cooking. This Cherry in the locality referred to hangs well into September, and is even more valuable than the Morello, but makes a stronger growth and flowers late; the latter is a great gain as there is less fear of the flowers being injured. Ronald's Late Duke is stated to be somewhat similar to Black Tartarian, but the one referred to above is not at all like that variety; it is much later, and in the South I find that Ronald's Late Duke and the one simply called Late Duke in the North are much alike, but in the last-named locality the fruits ripen later and are larger. There may be two varieties, but even then there can be no question but that Ronald's Late Duke is a most valuable Cherry.—G. W. S.

Mulching or feeding Strawberries.—When the Strawberry plants are in light soil and swelling up their fruits it is important to assist them. There are various opinions about mulching at this season, but in poor or light soils it is most important, and the work should be done as early as possible in spring. At the same time much depends upon the age of the plants, as young ones will not need so much food as those that have given a crop. By giving food now it has time to reach the roots, and the surface is cleansed by rains and exposure, and is then in condition for the fruits to rest upon. With regard to the best time to feed the earlier it is done now the better, and, before applying the mulch, cleanse the surface by hoeing and raking over, and then mulch liberally. I have seen feeding advised in midwinter; but this is not wise, as the roots are kept cold so much longer. Far better mulch now, when growth is most active. If liquid foods are used give these when a small portion of the mulching material has been placed in position. Put on the remainder afterwards; this should be of a strawy nature.—G. W. S.

Mr. William Paul.—In a recent issue of *The American Florist* there appears a portrait of Mr. William Paul, together with an appreciative note, which says: "The story of the life work of William Paul is written in the Rose gardens of the world. It is a worthy record of a life well spent, for this venerable rosarian has laboured long and well for the improvement of the Rose, of which there is at his place, Waltham Cross, Hertfordshire, England, one of the grandest collections in the world. Mr. Paul has spent half a century in his Rose garden, coming into the business in youth,

succeeding his father, but in these later years turning over the details of the great nursery to his son Arthur, who is himself skilled in the craft. Some of Mr. Paul's introductions are Medea, Corinna, Enchantress, Waltham Climber, Duke of Edinburgh, Beauty of Waltham, Pride of Waltham, Star of Waltham, Princess Adelaide, Duchess of Albany, Lord Bacon, R. D. Baxter, Brightness of Cheshunt, Brilliant, Cheshunt Scarlet, Princess Christian, Crimson Globe, Paul's Single Crimson, and many more. Given to literary pursuits and possessing one of the finest libraries of botanical works in all England, it is but natural that he should write of his Roses, and his book, 'The Rose Garden,' published in 1848, has reached its ninth edition." Mr. Paul is one of the oldest Fellows of the Royal Horticultural Society.

Notes from Baden-Baden.—*Aubrietia tauricola* is the most floriferous among the genus; it is a dwarf, compact-growing plant, and when fully out no foliage can be seen so crowded are the flowers. Their colour is a good deep purple-violet, they have a perfect shape, and they last rather longer than those of the *deltoides* section. *Anemone Alleni*, raised by Mr. Allen, of Shepton Mallet, is very good; it belongs to the *memorosa* section, and its flowers are of an exquisitely delicate, very pale purple colour, richly and freely produced. *Iris Bludowi* is a rather rare plant, but is well worth having; it is dwarf, the flowers large, and of a glistening brilliant yellow. *Mertensia primuloides* is a welcome first-rate spring flowering plant. Seeds sown in summer soon after ripening make nice plants to prick out in autumn, and are little clumps in spring well furnished with plenty of small spikes of *Myosotis*-like flowers; each individual flower coloured indigo-white and yellow. It is charming as an edging or a little group.—MAX LEICHTEN, *Baden-Baden*.

Galanthus Ikarie.—This is a very pretty and distinct Snowdrop, with broad, shiny foliage of a bright green. I find that it grows best in full sun. I have it growing in the grass, in shade, and also on a sunny south slope. In the former case it is not good, but in the latter appears very happy and has the advantage of lateness, most of the other Snowdrops being over when this one is in full beauty.—N. B.

Narcissus Victoria.—Just a line of agreement with the criticism of "Jay Aye" of *Narcissus Victoria*, as compared with *Empress* and *Horsfieldi*, when cultivated in the open border. The white of the perianth segments is not nearly so good as that of these two varieties. It has, however, a good sturdy habit for the garden, and is much purer when under glass than outside. Is it not, however, a Daffodil which may come purer when grown in turf than in the border? I think this is quite possible.—S. ARNOTT.

—I quite agree with "Jay Aye" (page 237) with regard to *Narcissus Victoria*. I consider it inferior to *Horsfieldi* or *Empress*. The perianth is wanting in purity and substance. Like your correspondent, I had a bulb given to me in the autumn of 1899 which produced three fine blooms in 1900, and in 1901 gave no less than thirteen. After it had ripened its growth it was lifted, and it divided into ten bulbs, which were planted in August last and are now giving me eighty blooms. It is most prolific and floriferous.—J. HENSHAW, *Rothamsted Cottage, Harpenden*.

Iris alata.—"E. J. Lloyd Edwards" mentions on page 234 having failed to flower *Iris alata* after the first year. Has your correspondent tried taking up the roots and baking them in the sun? My plants were obtained from Holland in the autumn of 1899, flowered fairly in January and February, 1900, and not at all the following winter. Last June we took up the roots and laid them, partly covered with sand, in a box on a sunny shelf in the greenhouse. In the autumn they were replanted close to the foot of a brick wall facing south. They flowered more freely than they had done the first year, and kept up a succession of blooms from January to April. If this information is of any use to your correspondent, I wish he would tell me in return how to keep *Iris reticulata*, which, so far, I have failed to flower after the first winter.—B. M. B., *Bedford*.

Violet Marie Louise.—Those who had none of the above Violet under cover and whose stock was simply in the open are likely to have some difficulty in securing good material for planting out to lift another autumn. The severe weather experienced in February cut up the outside plants badly. When plants are in frames or pits they are left after flowering until an opportunity offers to secure rooted runners that may answer a similar purpose another year, but not having required anything in this way for the last three years our plants remained outside, with the result that we are caught napping, and only sufficient strong planting pieces are obtainable. I find a north-west border the best site, as on a warmer aspect the plants get dry quickly in hot summers and red spider is troublesome. The best remedy for this pest is to mulch with fresh horse manure and give two or three good soakings.—E. BURRELL.

Outdoor Camellias at Claremont.

—The varieties *alba plena*, *Jeffersoni*, and *japonica pomponia* are flowering well out of doors this year, although in the case of *alba plena* a few degrees of frost or a heavy shower are quite enough to destroy the flowers. Very often expanded flowers are only at their best for one day. The last of the trio above-mentioned is an interesting flower—one of the oldest varieties—and only found in those places where old-established Camellia houses exist. From trustworthy evidence I gather that our plants under glass are quite 100 years old. No variety gives so many different shades from the same plant. Blooms are obtained nearly pure white and deep pink, also many intermediate shades, whilst others have nearly a white ground and are partially splashed or veined. The variety is well figured in Mrs. Condon's "Lady's Flower Garden," together with *Chandleri*, and, I think, *reticulata*. An interesting plant from its associations is *conspicua*, having been brought some twenty-five years ago from the garden of the house in Corsica, formerly owned and occupied by the Bonaparte family.—E. BURRELL.

The late Mr. G. F. Wilson.—Mr. George Wilson, whose death was announced in our last issue, was one of those who early appreciated the immense importance of applying science to manufacturing industries. The results in his case were seen in the excellence of his products and in the importance of the incidental substances which were brought to light in the course of the manufacture. In his days the importance of scientific method and its superiority to rule of thumb were not so much insisted on as they are now. Mr. Wilson was not only a chemist, but an enthusiastic horticulturist, adopting gardening at first as a recreation, and of late years making it the occupation of his life. Although he published nothing but ephemeral notes on his favourite pursuit, he constantly insisted on the necessity of applying scientific principles to practical horticulture. In a very interesting little book, entitled "The Old Days of Price's Patent Candle Company," in which the history of the manufactures which resulted in such vast improvements in candle making is detailed, he says:—"Laboratory training teaches careful observation and close watching, both useful in gardening, which gives a wide field for experiment. If I read the future aright ten years hence good fruit will be much more general than it is now, and for one beautiful hardy plant now common in our gardens we shall have ten." This forecast was written in 1876, and it has certainly been fulfilled, if not quite in the way that Mr. Wilson had in his mind.—*Nature*.

Rudbeckia conspicua.—I think most gardeners will agree with the remarks of Mr. Wolley Dod in his note on page 219 of THE GARDEN respecting the new *Rudbeckia* named *conspicua*, as this leads one to think that it is a new species and not a garden variety. If it is a good variety it should have received a popular name so that the public can understand its origin. Even if Messrs. Ladhams did wish to give the plant a botanical name it should have been *Rudbeckia hirta* variety *conspicua*. Your correspondent "E. M." states its advantages over *R. speciosa* syn. *Newmani* in a droughty season, but

to say that this variety dries up immediately is an erroneous statement and very misleading, as several batches which came under my notice last season—one of the driest we have experienced for some time—did not suffer at all, and were only watered occasionally. One bed replanted in the spring of last year showed no signs of flagging whatever, and this, I think, is the treatment it likes, as finer flowers are the result. As an instance of proper plant naming *Rudbeckia purpurea* Winchmore Hill variety might be mentioned. This variety, brought out by Mr. Amos Perry of Winchmore Hill, is a very great advance on the typical *R. purpurea*, and had it received a botanical name it would have been as misleading as the present instance.—INTERESTED.

A rock garden picture.—In a well-arranged rock garden there should be at this period of the year very many beautiful colour pictures. There is on the higher parts of the rock garden here one combination that has been strikingly beautiful. On the top of a rock and overhanging it is a big mass of *Erica carnea*. In the centre of the *Erica* is a good plant of *Andromeda floribunda*, a little to the left and sloping lower down is a fairly large sheet of *Galanthus Imperati*. Still lower down and in the same connexion is a large group of *Anemone blanda* on a groundwork of *Sedum glaucum*. From the brilliant colouring of the *Erica* the eye is gradually led down in easy stages over the cool grey stone to the blue of the *Anemone*. There is no violent contrast, the different groups run into each other in the most natural way, forming a beautiful yet simple picture not readily forgotten.—A. F. Grey Towers.

Lupinus arboreus Snow Queen.

—Any readers who have not already acquired this tree *Lupinus* may be advised to sow seed at once, placing pans or boxes on the pipes of a warm vinery or Peach house. The seed germinates quickly, and the young plants may be transferred to small pots as soon as possible, grown on for a time in slight warmth, hardened off, and planted out as soon as the weather will permit. For large shrubby borders it is a distinct acquisition, and is seen to great advantage in connexion with dark foliage plants, as, for instance, *Prunus pissardi* or the purple-leaved nut.—E. BURRELL.

Conference about rural industries.—Owing to the accident to the Countess of Warwick the conference on the co-ordination of rural industries, which was to have been held at Warwick Castle on May 1, has been postponed until later in the year. Details of the proposed programme may, however, be obtained from the Warden, Lady Warwick Hostel, Reading, and it is hoped that all those interested in the subjects for discussion will write for particulars.

Pæonia lutea.—It may be of interest to learn that this charming and distinct *Pæonia*, which attracted much attention last summer when in flower in the Himalayan portion of the Temperate House at Kew, and was mentioned in THE GARDEN for June 29, page 464, is now offered in the recently issued catalogue of M. Lemoine, the celebrated hybridist of Nancy, at the price of 50 francs per plant, which is sufficient to prevent it becoming common, at least for a very long time. This *Pæonia*, which forms a woody stem, as in *Pæonia Moutan*, is principally remarkable for the colour of the flowers, which are about 3½ inches in diameter and of a clear yellow tint, quite unlike that of any other *Pæonia*. It is a native of the mountains of Yunnan, and was discovered by the late Abbé Delavay in 1882, when acting as missionary in that district. To this gentleman, who died in 1896, we owe the introduction of many beautiful plants, and the charming *Incarvillea Delavayi* serves to perpetuate his memory.—H. P.

Acacia hastulata.—This is one of the most distinct of the smaller growing *Acacias*, and, though introduced in 1824 from Western Australia, it is only within the last decade or thereabouts that it has been brought prominently forward as a decorative plant, and even then not under the above name, but as *Acacia cordata*. If stopped freely during its earlier stages good flowering plants may be obtained in pots 5 inches or 6 inches in

diameter. Though small, it is by no means a twiggy bush, most of the shoots being long and slender after the manner of an *Epacris*, and, like them too, have an upward tendency. These shoots are thickly clothed with little sharp-pointed halbert-shaped leaves, in the axils of which the tiny pale straw-coloured blossoms are closely packed for a considerable length. When at their best they are so numerous as almost to hide the leaves. The distinct habit and uncommon colour (for an *Acacia*) single it out at once for notice. To maintain the plants in a bushy state they must be cut back hard after flowering, in fact given much the same treatment as an *Epacris*.—F.

Polyanthus Middleton Favourite.

—While this gold-laced variety can be termed only second-rate, because the centre clouds with some slight dark shading as the flowers mature, it is yet an attractive bright red ground variety, and very useful as a seed parent along with William IV. and Sidney Smith. If any one or all these varieties could be isolated and carefully fertilised with their own pollen, or the three be crossed one on to the other, something good might be expected from the seed thereby obtained. There is much need for some one to take in hand the improvement of the gold-laced *Polyanthus*.—R. D.

Forsythia intermedia.—This hybrid *Forsythia*, or Golden Bell, is one of the most charming of our early shrubs, and a good bush of it has been very ornamental against a dark green trellis for a short time, and is likely to keep in bloom for some time yet. It is, we are told, a hybrid between *F. suspensa* and *F. viridissima*, and I prefer it to either of the parents. In training one has to be careful not to make it too stiff. The main branches are tied to the trellis, but the flowering shoots are allowed to project from it, and the effect is charming, especially when seen from the side of the plant, when the golden bells so plentifully produced on the branches look so pleasing. There seems no question as to its hardiness, and I have never had the flowers spoiled by late frosts, as too often occurs with early flowers, although there is nothing but the trellis between it and a strong north-west wind, one of our worst enemies in this quarter.—S. ARNOTT, *Carsethorn, by Dumfries, N.B.*

Wood roller blinds.—I am pleased to see your appreciative note respecting this valuable invention, by means of which the shade required can be given so much more suitably to the roofs of Orchid and other houses than is possible with blinds made of tiffany and similar materials. The great objection to the latter, however well they may be made, is that they leave a certain portion of the roof exposed to full sunlight, and that midway between the eaves and ridge. To overcome this difficulty recourse has to be had either to whitewash or to tacking on a strip of tiffany independent of the blind. I have on a few occasions seen the blinds made of such a length as to overcome this, but the rollers projected some distance beyond the house and were unsightly. Now with the aid of wood roller blinds there is no difficulty whatever about imperfect shading, as they are made to fit with such nicety that when fixed the roof is regularly and effectively shaded from eaves to ridge. Personally, I cannot speak too highly of their value, not only for affording shade, but also as a protection on frosty nights, for when run down at dusk and allowed to remain down till morning less fire-heat is required. I have also seen them in use in other places, and the verdict has always been in their favour. The initial cost is, of course, heavier than in the case of tiffany and other blinds, but then they outlast a good many of these and are by far the cheapest in the end. If the pulley wheels are occasionally oiled they roll up and down most easily and quickly, and need no other attention unless it should be to replace a sash-cord now and then.—A. W.

Magnolia soulangeana in the garden of the old Casa Annalena, Florence.—During the month of March there has been in flower a most beautiful old *Magnolia* tree (*M. soulangeana*) in the garden of a villa known in the early part of the last century as the

Casa Annalena in the Via Romana, just opposite the entrance gate of the Boboli Gardens. At that period the Casa Annalena belonged to the father of the late Dean Church, and has interesting associations for English people, inasmuch as several years of the Dean's boyhood were passed there. Later on it became the property of the Macdonalds, who intermarried with the family of Talleyrand, and in the sixties Casa Macdonald, as it was then called, was let out in apartments to foreign families wintering in Florence. At a later date it was occupied by the nuns of the Sacré Cœur, who have now migrated to a country district, and the house is again let out in apartments, the beautiful old garden in which it stands being leased to a working gardener. The Magnolia tree, which forms its greatest ornament, is pronounced by experts to be not less than 150 years of age, and is fully 60 feet in height. When I visited the garden in the second week of March its branches were completely hidden by a wealth of blossom, and the sun had coloured them to a richer and deeper tint than is generally seen in this variety. It was worth a journey to see so beautiful an object, but its present proprietor, the working gardener, has no appreciation of its value, and is hacking large branches off it for the sake of the few pence they represent. Passing one of the principal flower shops in Florence a few days later, and finding its doorway wreathed with branches of this tree, the flowers of which I recognised at a glance, I spoke to the *florajo* of the iniquity of thus destroying so beautiful and interesting a tree. He shook his head and said it certainly would not long survive its present treatment. There could not be a better illustration of the way in which the Tuscan market gardener regards his wares. The present small profit is everything. He is devoid of any sentiment or affection for his garden, and what does not sell in the piazza (market) has no value in his eyes.—TUSCAN. [We regret the photograph was too reduced to make a good reproduction.—Eds.]

TROPICAL FRUITS FOR ENGLISH GARDENS.

UNDER this head it is proposed to call attention to certain fruits of recognised value in tropical countries, but which have not hitherto found much favour with cultivators in this country, although their management is well within the means of the grower of forced Peaches, Grapes, Melons, Pine-apples, Figs, &c. Such plants as the Mangosteen and Durian, two of the most famous of tropical fruit trees, are omitted, because they are practically beyond our skill.

The expense incurred in the production of fruits and flowers is not always a primary consideration. Many of those we grow could be bought for less than it costs to produce them at home. There is, however, the satisfaction, one might say pride, of accomplishing some difficult feat of cultivation, of growing an ordinary thing even one's self, which is sufficient reward, and it is this spirit that enables English horticulturists to overcome difficulties which would probably deter one who is influenced only by considerations of profit and loss.

A well-finished house of Mangoes, Custard Apples, Bananas, or Oranges would surely be as creditable and useful as some of the fruits that are grown now. That they can be grown under glass in this country will be seen from the following notes.

THE CITRUS FAMILY.

The genus *Citrus* comprises seven species, three of which yield fruits of commercial value, namely, *C. medica*, forms of which are known as the Citron, the Lemon, and the Lime; *C. decumana*, the Shaddock, Pomelo or Grape fruit; and *C. Aurantium*, the type of all the Oranges proper.

Although found either wild or cultivated in

most tropical and sub-tropical regions, the various forms of *Citrus* had, according to Sir Joseph Hooker, an Eastern origin, and the forefathers of the Orange, the Lemon, and the Lime may be found in the hot valleys of the Himalaya, of the mountainous districts of Eastern Bengal, and of the Deccan.

The cultivation of Oranges and Lemons is now an enormous industry in countries both west and east. It would therefore be absurd to recommend their production in Britain as a source of profit, although they can be grown to perfection at no greater an outlay than is required to grow first-class forced Peaches.

The Lemon, Orange, and less commonly the Shaddock are grown sometimes as decorative plants, their fruits being allowed to remain on the trees as long as they will hang, by which time they are dry and unpalatable. But Mr. Rivers, of Sawbridgeworth, has shown that English-grown Oranges are superb as dessert fruits. He has cultivated for many years a collection of them in pots by the orchard house method, invented by his father, and the collections of fruits exhibited by him almost annually in London are proofs of its success.

The value of the flowers, which are always in demand for weddings, is also an item that deserves passing mention. The varieties worth cultivating for their fruits are:

Oranges.

Blood, or *Malta*.—Fruit large with a thin and rather smooth skin; pulp stained with crimson, very juicy and sweet.

St. Michael's.—This is the most commonly cultivated for market, and it varies in quality according to the conditions under which it is grown and the variety. The best forms are known as *Exquisite*, *Dulcissima*, *Silver Sustain*, and *Egg*.

Tangerine.—Fruit small, compressed, skin easily removed and peculiarly aromatic; pulp juicy and very sweet. All the forms of this are excellent, one of the best being that known as *St. Michael's*.

Navel.—Fruit large, egg-shaped, with a nipple-

like depression at one end; skin thin, pulp pale in colour, very juicy and sweet.

Jaffa.—Fruit large, skin generally thick, pulp juicy, and when the fruits have been left long enough to mature before being gathered pleasantly sweet.

Seville.—Fruit large, skin thick, pulp acid and not sweet. Grown for the manufacture of marmalade. A free flowering variety.

Lemons.

Bijou.—Fruit small, globose, juicy, aromatic, slightly bitter as well as acid; tree dwarf and fruitful. Seems to be intermediate between the Lemon and the Lime.

Imperial.—Fruit large, juicy, aromatic; tree vigorous and free.

Sweet, or *Brazilian*.—Remarkable in being almost devoid of the acidity characteristic of Lemons.

Metford's.—Fruits as large as an ostrich's egg, skin smooth, pale yellow, pulp juicy and superior. An excellent Lemon for culinary purposes; in the size of the leaf, flowers, and fruit it resembles a Shaddock, but it is a true Lemon.

Lime.—The characters of the true Lime are a thorny shrub with ovate leaves, white flowers, small nearly globose yellow fruit with thin skin, and an abundance of pure acid juice. It is largely grown in the West Indies, and is the principal source of citric acid, so largely employed for flavouring and as a summer beverage. The best forms are known as *Bitter*, *Sweet*, and *Persian*.

Shaddock.—This is also known as the *Forbidden Fruit*, *Pumalo* or *Pomalo*, and *Grape Fruit*. The largest fruited forms are sturdy trees, with large leathery leaves, very thick petalled flowers, and oblong fruit as large as an ostrich's egg, or nearly globose; skin thick and rather coarse; flesh in coarse, bladder-like grains, pale, watery, and lacking both sweetness and acidity. The variety known as *Grape Fruit* is about the size of a swan's egg, has smooth skin, and the flesh is slightly bitter and aromatic. It is largely eaten in the United States as a morning tonic.



NAVEL ORANGE (*CITRUS AURANTIUM* VAR.). (Height of original 2½ inches, width 3¼ inches.)

CULTIVATION.

As in the case of Apples and other cultivated fruits, the forms of Oranges and Lemons cannot be relied upon to come true from seeds. Grafted plants must therefore be secured. They may be grown in pots or tubs of about the same proportions in relation to the plants as Camellias, or they may be planted out in a border exactly as for Peaches or Vines. In either case they prefer good fibrous loam, which should be periodically enriched with top-dressings of manure—preferably sheep or deer dung—applied in March. When in growth they require plenty of moisture both at the root and overhead; whilst resting in winter the soil should be kept just moist. Plants wintered in a low temperature will not require any water from about November till March.

Where a house can be devoted entirely to the cultivation of Oranges it should be spacious, well glazed, and ventilated as for forced Peaches. The border should occupy the whole area and be deep, well drained, with about 2 feet of good loamy soil. In this the trees can be planted at suitable distances and treated as for ordinary orchard house trees. Fan-trained trees may occupy the sides or walls of the house.

The trees require careful pruning so as to obtain short sturdy wood and an open form of tree, better results being thus obtained than from trees allowed to grow dense. Strong woody shoots, if not required to build up the framework of the tree, should be cut out, or, better still, they should be stopped early to prevent waste.

Oranges require all the sunshine they can get. It is a good plan to start the house early, say the first week in March, by maintaining a temperature of from 50° to 70°, the latter with sun-heat; from May onwards the temperature may be 10° or 15° higher than this. A good syringing twice a day should be given. The plants must be kept free of insects, and with this object some growers syringe them once a week with a weak solution of paraffin.

If the plants are grown in pots or tubs they require the same treatment as those planted out, but of course close attention must be given to the condition of the soil. Half-inch bones and old mortar mixed with the soil serve to keep the latter open and also afford nourishment. Plants that have grown too large or become leggy and unsightly may be reduced and renovated by cutting them back in the spring and keeping them close and moist for a few weeks. This induces them to break freely.

(To be continued.)

USES OF BRITISH PLANTS.—I.

In the following series of short papers I propose taking the families in their usual sequence and selecting such plants as have any special interest on account of their real or supposed value to man.

RANUNCULACEÆ.

It occasionally happens that while a number of genera are grouped together by the common structure of their flowers and fruits, some physiological property is correlated with many, if not all, of them. Such is the case with this family—an acrid, narcotic juice prevails throughout; the Water Crowfoot being perhaps the only exception, as it is greedily eaten by cattle in some midland counties.

Traveller's Joy (Clematis Vitalba).—This was so named by Gerarde in 1597. The juice is used occasionally by tramps to excoriate and blister



GRAPE FRUIT (CITRUS DECUMANA VAR.). (Original 3½ inches high, 4½ inches wide.)

their arms, in order to excite commiseration of the generous, but the young shoots are sometimes pickled in vinegar. Rough kinds of baskets are made of the flexible stems in some counties.

Anemones (*Anemone nemorosa* and *A. Pulsatilla*).—All the species are acrid. Gerarde describes some half-dozen uses, which Culpeper (whose "Astrological Herbal" is still published!) copies nearly verbatim; but they are worthless. At present the Pasque-flower (*A. Pulsatilla*) is a favourite drug of the homeopathist.

Hellebores (*Helleborus fetidus* and *viridis*).—Like all others these are dangerous plants, but often used by country people as vermifuges; indeed, they have been thus employed since the days of Hippocrates (fourth century, B.C.). Our British Pharmacopœia contained them in 1851, but they have long since been discarded as too dangerous.

Aconite, *Monkshood*, or *Wolfsbane* (*Aconitum Napellus*).—This is the only British plant of this family now included in the Pharmacopœia. It is a most deadly poisonous plant in all its parts. The root has often been dug up and eaten for Horseradish, with fatal results; but while that of the *Aconite* is conical and brown or black, the root of Horseradish is cylindrical and pale-coloured. Gerarde says of this plant and other species: "All these plants are of a most venomous quality." He speaks of arrows being poisoned with the juice and fatal to those wounded by them, as well as of several persons who died from eating the leaves as a salad. Pliny tells us that "The barbarous nations go to hunt the panther provided with meat that has been rubbed with Aconite. As the poison produces a constriction in the throat, it was called *parcalianches* (i.e., Leopard-strangler)." As an instance showing how names get transferred from one plant to another, he elsewhere called *Doronicum* by the name of "Aconite," now known as "Leopards'-bane." "Aconite," he writes, "has leaves like those of Cyclaminos." It appears that Gerarde describes this plant as "Woolfesbane," as "having round leaves like those of Cyclamen." Pliny further adds rather a curious idea: "Such is the nature of this deadly plant (the true Aconite) that it kills man unless it can find in him something else to kill. When such is the case, as though it had discovered in the body a fit rival to contend with, that substance is the sole object of its attack." This looks like a dim foreshadowing

of the modern theory of phagocytes in the blood contesting with microbes!

Speaking generally of all the members of this order, it must be carefully borne in mind that they are more or less poisonous, and children especially should be warned against putting any part of them in their mouths. For further details, I must refer the reader to my little book, "Poisonous Plants in Field and Garden" (S.P.C.K.).

GEORGE HENSLAW.

THE FRUIT GARDEN.

THE GOOSEBERRY.

FOR hardiness and general usefulness the Gooseberry ranks amongst the most important of all the fruits grown in these islands. The tree is a native of Britain, and, unlike many of our hardy fruits, succeeds even better in the cold north than in the warmer south, Lancashire and Cheshire being the counties in which it best succeeds. The former county is celebrated for the encouragement given to the large Gooseberry, especially by the many shows and liberal prizes offered for the heavier specimens for very many years past. May I suggest that our Lancashire friends, now they have developed the size of the fruit, should turn their attention and enthusiasm to improving its quality and flavour. Some efforts have been directed in this way in the south of England of recent years, especially by Messrs. Veitch of Chelsea, who have raised some excellent new dessert varieties, many of them being thought worthy of recognition by the fruit committee of the Royal Horticultural Society. I believe there is still room for greater improvement in this direction, and I should rejoice to know that our northern friends have taken this aspect of the Gooseberry question in hand as earnestly and successfully as they have that of size. We should then have the usefulness of this important fruit developed to its full extent.

The Gooseberry is one of those hardy fruits which, commercially speaking, is of greater value in an unripe state than it is when fully ripe and in condition for dessert, and from this point of view it is the earliest hardy available fruit of the

garden, either for market or home use; and, considered from a commercial standpoint, when picked green the Gooseberry is looked upon as one of the most consistent and profitable crops of the garden or orchard.

The Gooseberry is the most accommodating of fruit as regards the altitude, position, or the nature of the soil in which it will succeed. It is at home on the coast at sea level,

and flourishes equally well at a height of 600 feet or 800 feet. It is to be found in every garden in the land; even the smallest and most neglected have a Gooseberry bush or two, and so hardy is the tree that even in the coldest part of Scotland it yields a modest and useful return.

RAISING NEW VARIETIES.

It is propagated by seed, by cuttings, by layers, and by grafting; but for general and economical purposes the best way undoubtedly is by cuttings. Seed propagation is only resorted to for the purpose of raising new varieties, and to those who have leisure and inclination this way is very fascinating. To those inexperienced in the way of hybridising and raising new varieties I will very briefly give a few particulars of how to proceed. First determine in your mind on a variety you wish to improve upon in size, flavour, or appearance. It may be a variety which possesses good flavour, but is too small to take the public eye. Then select the largest and best flavoured variety you know of the same colour, and with the pollen of this variety the stigma of the small fruited sort should be fertilised, and the best way to effect this is by carefully touching the dust-like pollen of the larger variety with a camel's hair pencil and communicating the same to the pistil or embryo fruit of the smaller variety. Two or three fruits will be quite sufficient to fertilise, as these will provide many seeds. As soon as fertilisation has been accomplished all other flowers on that part of the branch should be removed, and those operated on be enveloped in a piece of muslin to properly locate them as well as to protect them from injury and from the chance of further cross-fertilisation by the agency of insects. A label should be attached to the branch indicating the nature of the cross, and this should also be registered in a book for future reference.

It is easy to change the size and quality of any variety (if not to improve it) by means of hybridisation. As soon as the fruit is ripe the pulp should be washed away and the seeds carefully preserved and sown in pots the following March and placed in a cold frame. They should only be lightly covered with fine soil. The seedlings will soon

appear above ground and when they are large enough to handle prick them out into beds previously manured and dug, and planted in lines 1 foot apart at a distance of 6 inches from plant to plant in the row. The next autumn they should be planted in the experimental quarter and allowed to remain there until they have fruited, and should you be rewarded for your labour by the production

should be placed a thin layer of sand, half an inch deep, into which the end of the cutting is inserted, 6 inches apart, afterwards replacing the soil in the trench and treading firmly to the cuttings. The following autumn twelve months they will be ready for transplanting into another quarter 2 feet apart. At this transplanting be careful to prune all shoots from the base of the stem to the distance of 10 inches from the ground, and also be careful to notice that there are no suckers on the stem below ground, otherwise these in years to come will give much trouble. To those cultivators only wanting a limited number of trees it is more convenient and satisfactory to purchase them from a nursery, as they are sold cheap; but to market growers contemplating planting on a large scale by the acre home propagation should be resorted to, as it is an item of importance in the economy of the farm or garden. In buying trees be careful to note that the lower branches are at least 10 inches from the ground, as on branches lower than this the fruit is so damaged by rains beating the ground and splashing the fruit with sloppy soil, making it practically worthless.

PRUNING.

This is a simple operation and is easily carried out, provided the cultivator will always bear in mind that there should be at least 6 inches of space left clear between each main branch of the tree. This rule holds good whether the tree is in the form of a bush, a standard, or an espalier against a trellis or wall, and the small shoots or laterals

which grow from these main shoots, and on which the fruit is produced, should be cut back at the winter pruning to one bud on a weak shoot and to two on the stronger ones. In the case of a bush tree many growers advocate leaving the centre open in a concave form, arguing that better results are obtained in this way by greater exposure to sun and air, forgetting that a greater exposure is also made to the ravages of spring frosts when the trees are in bloom. For my part I much prefer the rounded head form, provided the branches are properly thinned out to 6 inches apart. This form of tree certainly affords better protection from spring frosts than does the concave one. As regards the best time to prune, where there are only a limited



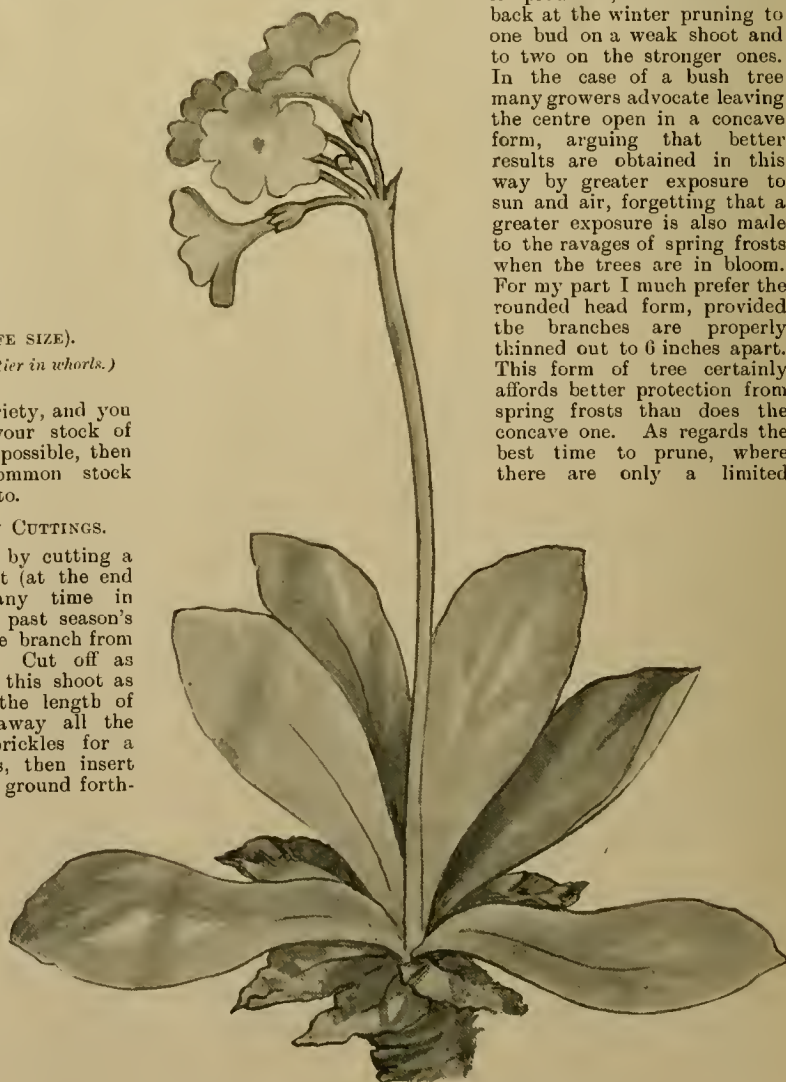
PRIMULA FLORIBUNDA (LIFE SIZE).

(The stronger flowers are tier upon tier in whorls.)

of an improved variety, and you wish to increase your stock of this as quickly as possible, then grafting on a common stock should be resorted to.

PROPAGATION BY CUTTINGS.

This is effected by cutting a medium sized shoot (at the end of October or any time in November) of the past season's growth close to the branch from which it emerges. Cut off as much of the top of this shoot as will reduce it to the length of 12 inches. Cut away all the lower buds and prickles for a length of 6 inches, then insert the cuttings in the ground forthwith at a depth of about 5 inches. The best way to do this when the ground has been previously prepared is to stretch a line across the quarter or border and then cut a small trench 6 inches deep with the spade; at the bottom of this small trench



PRIMULA AURICULA (THE WILD PLANT; LIFE SIZE).

number of trees, and damage to the buds apprehended from the depredations of birds, the pruning had better be deferred until late in February or early in March, when growth is on the move, otherwise there is danger of the tree being denuded of all its buds during the winter. When trees are grown in larger quantities there is not the same danger as to destruction of buds by birds, and the work may be taken in hand immediately after the turn of Christmas.

The Gooseberry will succeed, as I said before, in any sort of soil, but that which suits it best, and from which the best results are obtained, is a well drained, deep, rather heavy loam.

OWEN THOMAS.

(To be continued.)

THE MOUNTAIN PRIMULAS.—I.

INTRODUCTION.

OF all the genera of plants that grow in the mountains of the world, the genus *Primula* is the one that is the most homogeneous and that exhibits the fewest dissimilar characters. The species of this genus are nearly all perennial; one or two are biennial; none are annual, for even *P. Forbesii* and *P. malacoides* of Franchet, though they are scarcely perennial, cannot be classed as annuals.

Dr. Pax has made an important study of the vegetative system of the Primulas, the results of which are published in Engler's "Botanischen Jahrbüchern," vol. x.* The subject is too abstruse and too much a matter of botanical specialisation to interest readers of THE GARDEN in general, but those who desire to penetrate into the very heart of the matter may consult this fine work (pages 19-33).

Dr. Maxwell Masters has also made some extremely interesting observations on the germination of *Primulaceae* in general and the genus *Primula* in particular, the result of which he communicated to the Primula Conference held at South Kensington on April 20 and 21, 1896.† Sir John Lubbock (now Lord Avebury) has also made valuable scientific observations on the germination and growth of *Primula elatior*, *denticulata*, *vulgaris*, and *sinensis* in his important work on seedlings.‡

From the horticultural and cultural point of view which is now under consideration, these are the observations that I have myself made on the germination of the seed and the cultivation of the Primulas. All the species germinate slowly, even when quite fresh seed is sown. I am aware that in horticultural establishments where kinds of Asiatic origin, such as *P. chinensis*, *obconica*, and *floribunda* are raised in heat, that germination is quicker than in the cold frames of the Jardin alpin d'acclimatation, where the way of raising them is nearer that of Nature. Indeed, certain of the *Auricula* and *capitata* groups are often a year and a half before they appear above ground, while the quickest to germinate seem to be those of the *farinosa* group, of which some will come up within a month of sowing. On the other hand, seed of the Primulas retains its power of germination for some time; seeds three or four years old may be sown; but in the case of older seed, though it may actually germinate, the young life has so little strength that it is likely to perish as soon as it comes into contact with the air. This is what happened in the case of some seeds given me in 1893 by M. Franchet, that

had been collected ten years before by the Abbé Delavay in Yunnan. They were of very fine species, whose value was clearly shown by the dried specimens in the herbarium of the Paris Museum, and I had much hoped to be able to raise them. The only kinds that germinated were *P. calliantha* (Franchet) and *P. Delavayi* (Franchet), but in spite of all the care I could give them they were unable to complete the development of their cotyledons, and, to my great regret, they died in an almost embryonic state.

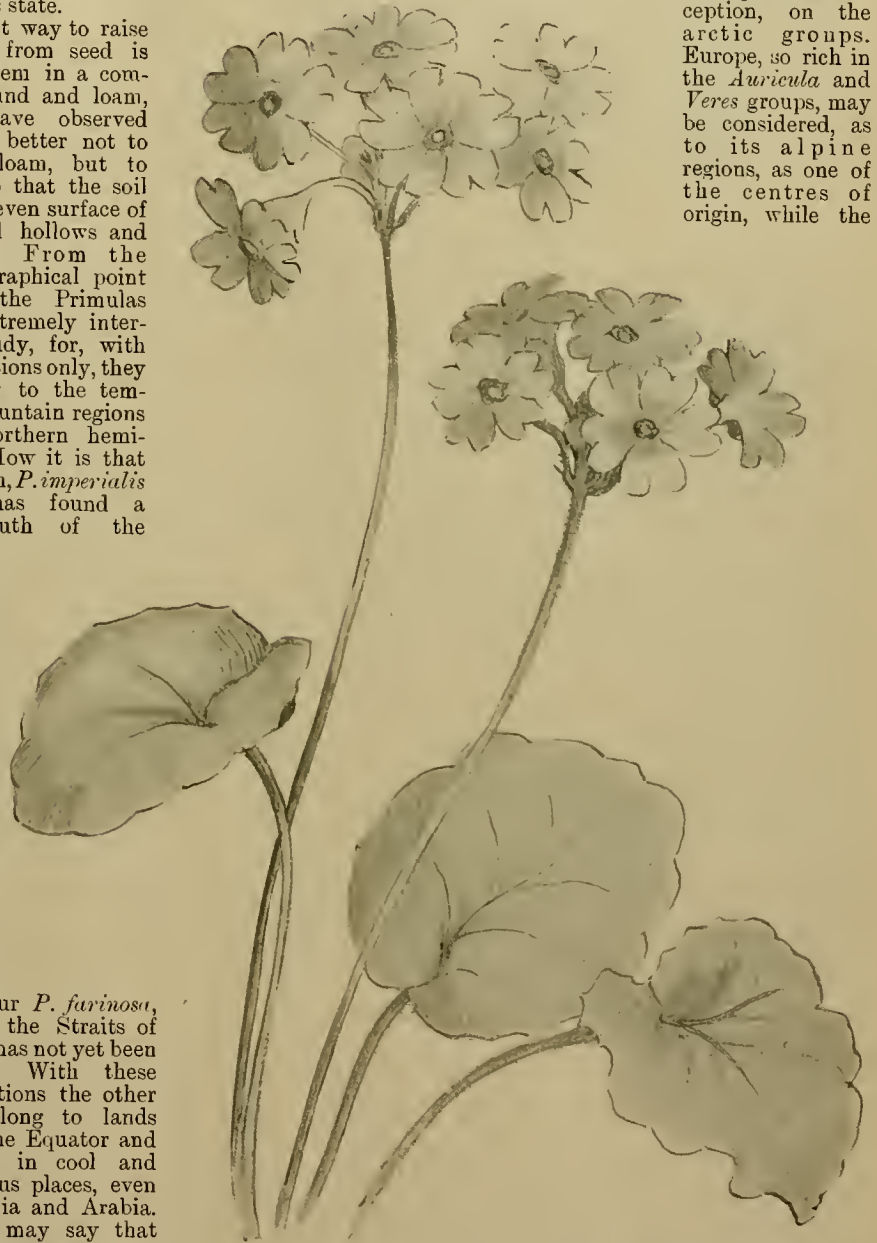
The best way to raise Primulas from seed is to sow them in a compost of sand and loam, and I have observed that it is better not to sift the loam, but to leave it so that the soil has an uneven surface of knobs and hollows and cavities. From the phytogeographical point of view the Primulas are an extremely interesting study, for, with two exceptions only, they all belong to the temperate mountain regions of the northern hemisphere. How it is that one of them, *P. imperialis* (Jung.), has found a home south of the

Equator in Java, while its normal centre of dispersion appears to be in Eastern Bengal, where it is found in the Khasi Mountains, and that on the other, an antarctic form of our *P. farinosa*, occurs by the Straits of Magellan, has not yet been explained. With these two exceptions the other species belong to lands north of the Equator and are found in cool and mountainous places, even in Abyssinia and Arabia. Thus one may say that *Primula* is a genus essentially belonging to the mountains and requires a cool soil.

The general centre of dispersion appears to be towards the south and east of Asia, or rather the chain of the Himalayas and its prolongation into southern China ending in Yunnan. The eastern Himalayas of Yunnan give us sixty-five endemic species—that is to say, species absolutely belonging to the soil of the local formation, while the western Himalayas have but nine. These species are classed in seventeen out of the twenty sections in which Pax divides the genus *Primula*.

Therefore in the regions just named only three groups of the whole genus are absent, namely, the *Fallaces*, a group which comprises three Japanese species, and one (*P. megaseeifolia*) found in western Asia, especially in a remote place on the border of the Black Sea; *Veres*, almost entirely European and western Asiatic; and *Auricula*, which is the group of the essentially alpine species.

The American continent is poor in Primulas, depending, with perhaps one exception, on the arctic groups. Europe, so rich in the *Auricula* and *Veres* groups, may be considered, as to its alpine regions, as one of the centres of origin, while the



PRIMULA OBCONICA (LIFE SIZE).

Levant, Arabia, and Abyssinia (the latter being the only portion of Africa in which a *Primula* is found) seem to depend on the western Himalayas. In short, the arctic regions, where the groups *Nivales* and *Farinose* alone are found, may be considered the third centre of dispersion; the Himalayas and the Alps forming the two first and most important. Still it is possible that the arctic groups may have come from Siberia, and therefore more remotely from the Himalayas and Thibet.

* Monographische Uebersicht über die Arten der Gattung *Primula*, von Dr. F. Pax, Privat-Docent der Botanik a.d. Universität Breslau; Leipzig, 1898.

† Journal of the Royal Horticultural Society, vol. vii., No. 2, pages 236-254.

‡ On Seedlings, vol. ii., pages 179-182.



GREY-EDGED GARDEN AURICULA (LIFE SIZE).

Among the nearly 150 species admitted by Pax in his "Monographie," without counting the large number of varieties and hybrids—for *Primulas* hybridise readily, especially those of the groups *Auricula* and *Vereis*—more than half belong to the Himalayas, Yunnan and the rest of China, Japan accounts for a dozen, the Caucasus for fifteen, the Alps and the mountains of Eastern Europe for twenty-six, and North America for seven.

Pax has classified the *Primulas* into twenty sections. It would be interesting to give them here with all their characters, but a complete enumeration might be wearisome to the general reader of THE GARDEN. In brief the sections are:—

1. *SINENSIS*.—*P. sinensis*, *oreodoxa*, *blattariiformis*, *malvacea*, *Listeri*, *Clarkei*, *filipes*, *obconica*, *mollis*, *Sieboldi*, *cortusoides*, *kantmanniana*, *geraniifolia*, *septemloba*, *vaginata*, and *heucherifolia*; in all sixteen species.

2. *FALLACES*.—*P. yesoana*, *kisoana*, *Reidii*, *megaseaefolia*; four species.

3. *MONOCARPIE*.—*P. malacoides* and *Forbesii*; two species.

4. *FLORIBUNDE*.—*P. floribunda*, *Aucheri*, *verticillata*; three species.

5. *PETIOLARES*.—*P. petiolaris*, *Hookeri*, *moupinensis*; three species.

6. *BULLATE*.—*P. ovalifolia*, *bullata*, *bracteata*, *Davidi*; four species.

7. *VERNALES*.—A polymorphous group comprising three species, *P. elatior*, *acaulis*, and *officinalis*, a great number of varieties and a yet larger number of hybrids.

8. *SOLDANELLOIDES*.—*P. pinnatifida*, *Wattii*, *spicata*, *Reedii*, *uniflora*, *pusilla*, *soldanelloides*, *saphirina*; eight species.

9. *AURICULACEE*.—*P. algida*, *auriculata*, *capitellata*, *luteola*, *rosea*, *farinifolia*, *elliptica*, *darialica*; eight species, and in addition a great number of varieties and hybrids.

10. *CAPITATE*.—*P. denticulata*, *erosa*, *nutans*, *capitata*, *cernua*, *glabra*, *bellidifolia*; seven species and several varieties.

11. *FARINOSAE*.—*P. involucrata*, *sibirica*, *Pumilio*, *frondosa*, *Olga*, *egallicensis*, *longiflora*, *scotica*, *stricta*, *farinosa*, *stenocalyx*; eight species and a good number of varieties.

12. *MINUTISSIMAE*.—*P. Heydei*, *minutissima*, *reptans*; three species.

13. *TENELLE*.—*P. tenella*, *bella*, *yunnanensis*, *muscoides*, *tenuiloba*, *stirtoniana*; six species.

14. *NIVALES*.—*P. sikkimensis*, *Stuartii*, *elongata*, *nivalis*, *pumila*, *Rusbyi*, *cusickyana*, *angustifolia*; nine species and several varieties.

15. *BARBATE*.—*P. vinciflora*, *elwesiana*, *Delavayi*; three species.

16. *MACROCARPE*.—*P. macrocarpa*, *Fauria*, *cuneifolia*, *suffrutescens*, *hakusanensis*, *heterodonta*, *urticifolia*; seven species.

17. *CALLIANTHAE*.—*P. dickiana*, *Pantlingii*, *flava*, *Kingii*, *Griffithii*, *obtusifolia*, *Fedschenko*, *amethystina*, *calliantha*, *glacialis*, *dryadifolia*; eleven species.

18. *CORDIFOLIE*.—*P. reticulata*, *grandis*, *rotundifolia*, *cordifolia*; six species.

19. *PROLIFERE*.—*P. prolifera*, *serratifolia*, *Maximowiczii*, *japonica*, *imperialis*, *Parryi*, *membranifolia*, *sonchifolia*, *Poissoni*; nine species. Pax gives *prolifera* and *imperialis* as synonyms, but the "Index Kewensis" keeps them separate.

20. *AURICULA*.—*P. Auricula*, *ciliata*, *Palinuri*, *marginata*, *carniolica*, *glaucescens*, *clusiana*, *wulfeniana*, *spectabilis*, *integrifolia*, *kitaibeliana*, *hirsuta*, *canensis*, *viscosa*, *pedemontana*, *comutata*, *villosa*, *Allionii*, *tyrolensis*, *glutinosa*, *minima*; twenty-one species and a great number of varieties and hybrids.

From the cultural point of view, the genus *Primula*, so rich in species, varieties, and hybrids, can be divided into several groups. To begin with, there are two categories that are perfectly distinct, namely, those that are hardy and those that are not. *Primulas boveana*, *floribunda*, *Forbesii*, *imperialis*, *mollis*, *obconica*, *prolifera*, *sinensis*, and *verticillata* must be grown under glass, and even *P. capitata* which grows at an altitude of 14,000 feet in the Himalayas will scarcely

survive a winter without snow. The hardy species may, from the cultural point of view, be placed in four sections as follows:—

1. Saxatile species which grow naturally in the fissures of rocks and natural stone-heaps.

2. Marsh-loving species, liking porous peaty soils and cool damp places.

3. Species that need silica and special culture.

4. Species that may be easily grown in the open in sound, mellow garden soil.

Genera.

H. CORREVON.

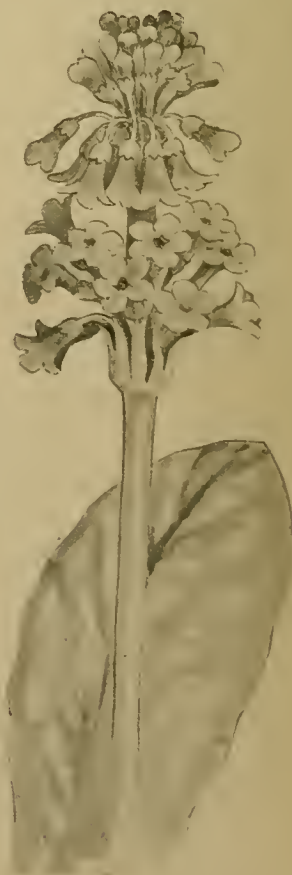
(To be continued.)

TREES AND SHRUBS.

THE TAMARISKS.

ALL who observe what grows wild about them when visiting our southern seaside localities, especially in parts of Cornwall, where it is a wild shrub in every farmer's hedge, making a grateful shelter for sheep and beast in those wind-swept parts, must be familiar with the graceful and feathery growth of the native Tamarisk. In and about seaside towns the Tamarisk is plentifully planted, in fact it is seen sometimes so prevalent as to exclude other beautiful seaside growths. As an inland garden shrub the Tamarisk is not commonly planted, owing probably to the wrong impression people seem to have that seaside plants will not flourish in places away from the sea. The same erroneous idea is prevalent in regard to the Sea Buckthorn, though both these essentially maritime shrubs flourish perfectly at places a hundred miles from the sea, and they are unquestionably two of the most beautiful hardy shrubs one can have in a garden, and particularly in places where the soil is inclined to be sandy or gravelly.

We in England do not appreciate the ornamental value of the Tamarisk so highly as it is on the Continent, and particularly in and about Paris and in some towns in Germany and Switzerland, where one sees special features made of it in masses isolated or grouped with some harmonising tree or shrub. While the planting of Tamarisk in seaside gardens is common it is neglected in inland gardens, and the object of the accompanying illustration of the



PRIMULA IMPERIALIS
(HALF LIFE SIZE).

Taurian Tamarisk is to draw attention to a shrub beautiful and elegant in foliage throughout the summer and exceedingly attractive in flower when planted in a mass, which is the proper way to treat Tamarisk, as there are very few shrubs which harmonise with it in growth and foliage; it never should be seen in a "mixed" shrubbery, as it will not tolerate crowding with broad-leaved things.

My experience is that it will grow well in any soil but the heaviest of clays or unmixed chalks. The soil that it likes best is a gravelly loam, on which it grows to perfection, though I have seen it flourish in pure gravels and sands, especially if on places where there is constant moisture. It is, in short, a very accommodating shrub. One can plant it on a dry bank or by the side of a stream and it thrives in all cases if it has the benefit of full exposure, as it resents shade and quickly shows it in its growth. As an isolated lawn group or bed, say about eight paces long by six paces wide, it is very effective, and one might have three or four small growing flowering trees rising from the mass, such as the Japanese pink Cherry or Japanese Crab Apple, *Pyrus floribunda* or Thorns, which break the outline of the group, and as an undergrowth there might be Apennine Anemones, Snowdrops, and Chionodoxas for early spring, succeeded by Narcissi, which would be past flower before the Tamarisk bursts into a cloud of pink flower at the end of May or beginning of June and continuing for some weeks. Meadow Saffrons (*Colchicum*) and Autumn Crocuses could be planted for late summer and autumn bloom. The light foliage of the Tamarisk does not interfere with the bulbs, in fact they are benefited by the partial shade. Occasionally pruning back the long straggling shoots will keep the Tamarisk within bounds, though unpruned it will rise in some places 10 feet or 15 feet high. This is enough about the culture and position of the Tamarisk, and now the point to consider is the best kind to plant in inland gardens.

Tamarisk is the popular name for all the species and varieties of *Tamarix*, a genus which, though really very small, has long been a puzzle to botanists, and consequently the few distinct species are encumbered with intricate synonymy. The type of the genus is our native species,

T. gallica, named by Linnaeus, and, though it is commonly called the French Tamarisk, it is really so cosmopolitan that no country can claim it to itself. It is one of those few plants that have a wide range of habitat throughout the whole of the northern portion of the Old World, but does not occur in the New World. It is found in all countries, from Europe, through North Africa, Central Asia, Japan, and even in parts of India. This wide geographical range has naturally altered the type in certain characters, but are not sufficiently distinct to rank as species by modern botanists, though these geographical varieties undoubtedly differ from a garden or ornamental point of view; therefore in botanical works one finds no fewer than thirty names standing for at most three or four species, which is very confusing. In the Kew arboretum the only names recognised are *Tamarix gallica* and *T. hispida* from Western

Asia. But the planter need not be concerned about the confusion of names, the point being to obtain the best Tamarisk for the garden. In English nursery catalogues there occur about half a dozen names. These are *T. gallica*, *germanica*, *parviflora*, *tetrandra* (*taurica*), *japonica*, and *chinensis*. If you ask simply for Tamarisk from one nursery you will probably get one of the forms of *T. gallica*. If from another you will get the Eastern form known in the trade as *T. japonica*. There is not much difference between them, but I find that what is sold as *T. tetrandra*, also called *T. taurica*, is the most free in flower and hardiest—that is, the tips of the branches do not suffer during severe winters as do the Eastern forms.

The French grow about Paris a Tamarisk which they call Marabout or White Stork under the name of *T. plumosa*, and this, I think, must be an Eastern form, as the shoots are killed down in the winter as in the case of what is called *T. indica*, though this is not the

in masses in the way suggested, and autumn or early spring is the best time to do it.

Kew.

W. GOLDRING.

NOTES ON HARDY PLANTS

HARDY HEATHS IN FLOWER AT KEW.

SEVERAL of the Heaths in the collection at Kew are just now flowering freely. The Winter Heath (*Erica carnea*) is still in full bloom, but its white variety (*alba*) is past, perhaps partially at least owing to the late spring frosts. The Mediterranean Heath (*E. mediterranea*), which forms a bush 2 feet to 3 feet high, is profusely laden with its purplish lilac-coloured blossoms. There is also a white variety of this (*alba*), which is of more compact habit than the type, and reaches a height of 18 inches or thereabouts. The Heath, which has attracted much attention within the last two or three years, and of whose early history little



THE TAURIAN TAMARISK (*TAMARIX TETRANDRA*).

same as is common in Indian gardens. I have said enough to show how confusing the names of Tamarisk are and how difficult it is to specify in a nursery order any particular kind.

The best way is to ask either for *Tamarix tetrandra* or *taurica*, *T. plumosa*, *T. japonica*, or *T. parviflora*, but I cannot add "see that you get it," as I believe the nurserymen themselves do not know the difference. The German *Tamarix* is a different shrub, and is botanically known as *Myricaria germanica* and in gardens *T. germanica*. It is of feathery growth, and has the flower spikes at the ends of the stems instead of axillary spikes all along the stems as in the Tamarisk, and is therefore not so ornamental. In the South of Europe and in the gardens of the East the Tamarisk grows into a tree-like size, and sometimes pruned to single stems, and in Egyptian gardens much is made of their value as wind screens for more delicate plants. After these discursive notes on the Tamarisk let us hope that we shall more frequently see it planted in gardens

seems to be known, except that it was put into commerce as *Erica mediterranea hybrida*, and is supposed to be a hybrid between *Ericas carnea* and *mediterranea*, is also a mass of flowers, which are lighter in tint than those of *carnea*, while the plant is of somewhat taller growth. The largest of the Heath family, *Erica arborea*, represented by bushes 4 feet to 5 feet high, is now in flower, and so is *Erica codonodes* or *lusitanica*, though this last is nearly over. Both have little white blossoms, which before expansion are usually just touched with pink. With the above now in flower, succeeded later on by *Erica cinerea* and its many varieties, *E. ciliaris*, *E. tetralix*, and *E. vagans*, as well as the Ling or Heather (*E. vulgaris*), the season of hardy Heaths extends well on into the autumn.

H. P.

PRIMULA ROSEA.

PUTTING aside its varieties *splendens* and *grandiflora*, is there any early hardy *Primula* in cultivation which will give more gratification to those who see it than *Primula rosea* when in health and full bloom? I think not. This is one's reflec-

tion after standing and looking at a clump of a dozen or so plants in full bloom by the side of a pool, where it has always plenty of moisture below, and where it is top-dressed twice or thrice a year with peat and sand. The beautiful colouring of the flowers is really exquisite, and one rejoices at having hit upon the right place in which to cultivate it after trying others and losing plants in the trials. Everyone has to buy his experience with some plants, and it is so with this Primrose, as some can succeed with it by giving less root moisture than others, while others, again, have to raise it from seed every year to keep up their stock.

S. ARNOTT.

FRITILLARIA MELEAGRIS.

ALTHOUGH I have never grown *Fritillaria Meleagris* beneath the branches of a deciduous tree, as "Jay Aye," in his interesting note on page 237 of THE GARDEN, tells us he has done, I have had it for years growing in one of the driest parts of my garden and in light sandy soil, which in summer seems as if without a particle of moisture, this being entirely taken from it by the roots of a hedge close by. It grows through a tangle of Saxifrages, Stonecrops of the reflexum type, and other rough carpeters. In this position it has thriven well, and has flowered freely every year. This says a good deal for the accommodating nature of the Snake's-head Lily, and is all the more surprising in view of its being really a meadow plant. If your correspondent had taken these *Fritillarias* in hand, along with certain other plants of which one knows, we would probably have seen some improvements among them. As it

is the improvement in the *Fritillarias*, at one time worked up by the Dutch growers, seems at a standstill. From seeds some pretty things result in the way of shades of colour from white to a deeper purple than usual.

S. A.

TROPEOLUM SPECIOSUM (THE FLAME NASTURTIUM).

THE accompanying illustration represents *Tropeolum speciosum* growing in a dell in the garden of Mrs. Buxton, Fox Warren, Cobham. The dell has a natural fall to the north-west. The west side of the dell is shaded in the afternoon by tall trees, and it is here that the *Tropeolum* is most happy, as it seems absolutely at home. It is growing in a *made*, free, open soil several feet deep, and where the roots are well away from the drying influence of summer heat. This soil is resting upon one of the worst substrata possible, namely, what is known as "London blue clay," which is offensive to eye and nostril. Of course, the soil was well drained.

LILIES IN NORTHERN SCOTLAND.

THE garden in which the following observations were made lies well to the north of the Grampians, not on the favoured west coast, but on the harsher eastern side of bonny Scotland, with its severe winters and cold variable springs. The soil is a good light sandy loam, in which such things as *Rhododendrons* are very much at home. All the *Lilies* mentioned have been grown in the natural soil, enriched only with half-decayed leaves. The garden slopes slightly to the north, a condition that seems to suit many of the *Liliums*; this also has the advantage of retarding the early growth. No protection has ever been given in the way of covering during the winter.

L. auratum and its varieties do well for a season or two but then die out.

L. candidum is very variable, some seasons good and some decidedly bad. The reasons for the latter I have not been able to determine.

L. chalcidonicum flowers very well every year; but some years it is somewhat disfigured by the foliage turning yellow.

L. croceum grows and flowers well in almost any situation, without any particular care or cultivation, and it is equally good in half shady places as in full sun.

L. elegans, in many shades of red and yellow, answers to the same description as *L. croceum*. A most useful Lily.

L. giganteum.—A great success in a north-eastern exposure, where it seldom gets the sun after mid-day during the summer. When the flower spikes appear they are helped with a dose or two of weak liquid manure.

L. Humboldtii comes up regularly and

flowers well on the north side of a clump of *Azaleas*. It has been there for five years without being disturbed or even fed in any way.

L. Hansonii is very reliable in the same situation and with the same treatment as *L. giganteum*.

L. longiflorum.—I have only tried it in a half shady and very sheltered place, but with no success.

L. Martagon grows well in all its forms; but does not care about being disturbed; this applies more especially to the lovely *Martagon album*.

L. speciosum does not do in half shade. I have not yet tried it in full sun.

L. testaceum is one of the best, growing well anywhere, but seems to enjoy an open sunny situation among herbaceous plants.

L. scoriotianum (colchicum) very good, and seeds freely; does well in almost any situation.

L. pyrenaicum grows like a weed.

L. rubellum and *L. Batemanniae* are under trial. The former is doubtful, but the latter will I think be a success in a well sheltered corner.

N. B.

GLADIOLUS CHILDSII.

THE REV. H. H. D'OMBRAIN has fallen into an error in ascribing an American origin to *Gladiolus Childsii*. In Lemoine's "*Les Gladiols Hybrides*," 1890, the early history as well as a highly appreciative opinion of the section is given. The honour of raising this, the finest of all the *Gladiolus*, belongs to M. Max Leichtlin, of Baden-Baden, who about 1882 produced the earliest varieties from varieties of *G. gandavensis* crossed with the then new *G. Sandersi*. M. Leichtlin it would appear could find no purchasers in Europe, and finally disposed of the stock to Mr. Childs, Floral Park, New York, who named the species after himself. Coloured plates of the new flower were introduced into the latter's catalogue about ten years ago, and since then its popularity has gone on increasing. My stock has increased at a wonderful rate, and home-grown corms yield splendid tall spikes, which are simply invaluable for the garden in autumn. Hitherto the copper-web fungus has failed to gain a footing in the corms, but as a fact it is in only some of the *Gandavensis* section that it works havoc. I have stock of a few varieties of the latter purchased a quarter of a century ago, and in Ayrshire in the garden of Mr. Smith, Prestwick, and also in the nurseries of Messrs. Mair the stock is increased annually.

B.

[A small photograph which accompanied this letter was unfortunately unsuitable for reproduction.—Eds.]

LITHOSPERMUM CANESCENS.

THIS is one of the most distinct of the *Lithospermums*, and one of the few having orange-yellow flowers, most of the others being of pale or deep blue colouring. It is a deep-rooted, deciduous perennial, with several stems growing about 9 inches to 1 foot in height. The greyish lanceolate or linear oblong leaves are covered with soft hairs. The plant flowers exceedingly well in corymbs of very showy, erect, funnel-shaped flowers, bright orange-yellow in colour. Although it usually blooms in May, when planted in a warm sunny position it will bloom as early as the beginning or middle of April. It is of easy culture, succeeding in almost any kind of soil or situation, is well adapted for pot culture, and a capital plant for the sunny part of the rock garden. Closely allied to *L. canescens* is the splendid *L. hirtum*. It is of vigorous growth, the stems about 2 feet in height, stem and leaves being furnished with bristly hairs; the leaves are linear or lanceolate, the upper ones being ovate or oblong; the corolla is covered with long woolly hairs, and rather showy orange-yellow flowers. Both are native of the Southern States of North America, and are by some authors described under the generic name *Batschia*. Like the former it is easily grown in a warm, moderately dry border, or, better still, on the sunny part of the rockery, and is well adapted for pot culture. *L. californicum* is probably the extreme southern form of *L. canescens*; it is about a foot in height, the lanceolate or oblong leaves as well as the



TROPEOLUM SPECIOSUM IN SURREY.

stems being furnished with soft hairs, and the distinct and handsome flowers are bright or golden yellow. It flowers in April and May. *L. pilosum* is of botanical interest only, the flowers being a dull yellowish green.

THE POPPY ANEMONE.

(*Anemone coronaria*.)

ONE of the joys of the Riviera in the early year is the *Anemone coronaria*. We need not describe its freedom in the sunny south, as the accompanying illustration, reproduced from a photograph taken by Miss Willmott in Mr. Hanbury's interesting garden, is sufficient explanation. The St. Brigid group is a selection, and forms of this beautiful flower are the Nice, Caeu, Cardinal's Hat, and so forth, a brilliant variety of colouring making this *Anemone* as pleasant to see as almost any flower of the garden.

The plants are easily raised from seed sown as soon as ripe. Make the seed-bed of a fairly porous soil, and place it in an open part of the garden. The surface before sowing should be firm and level; moisten the soil before the seed is sown. It is a good plan to scrape the surface of the bed with a worn-down garden broom immediately before sowing, which should be done broadcast, the seed being then covered with a thin sprinkling of sandy soil. After this make the bed smooth and shade it from the sun until the seedlings begin to appear, when the shading material must be removed. The bed must never be allowed to get dry until the young plants have finished their growth or they will wither prematurely.

THE KITCHEN GARDEN.

SPRING CABBAGES.

UNDER the Technical Education Committee of the Surrey County Council there is being conducted now a trial of spring Cabbages on a plot of ground, a portion of the large area of Crown allotments at Englefield Green, Egham. Mr. Sturt, of Round Oak Gardens, kindly undertook to raise plants and have them put out and cared for. The position is very high and exposed, the soil being a deep sand, not at all rich. A dressing of manure was applied when the ground was dug, and some artificial manures have been applied since, but of the effect of these it is too early to write yet. The varieties of Cabbages were obtained from several leading seed firms, each of whom were asked to send their earliest spring cutting varieties, the object being to familiarise the allotment holders with varieties superior to those they generally obtained from some local seedsmen. The first sowing was made on July 24, when a fine plant resulted from each variety. From this sowing a planting covering just one half of the trial ground was made on September 25. A second sowing of each variety was made on August 16; just over three weeks later, when another good plant resulted; and a further planting of each variety was made on October 16. In each case the rows of the second planting were in line with those of the first. Up to the present moment, out of nearly 1,500 plants only one had "bolted" to flower. Whether any may yet bolt from the second planting remains to be seen, but it seems improbable. But, whilst so far, owing to the cold bleak position, the plants are less forward than they would have been had they been grown in a sheltered garden, it is still so easy to note how much gain is to be attached to the September planting, as, although got out only three weeks before the second one, there is on the

first planted half fully three times the material that is seen on the second half, thus showing how much gain attaches to fairly early planting of Cabbages in the autumn. A special object in having two distinct sowings and plantings also was to note what effect early and late planting had upon the bolting propensities of Cabbages. I was specially pleased to find that so far no harmful effects seemed to have been produced. Still, there can be no doubt also but that the varieties selected by the respective seed firms were proved non-bolters. Naturally, any report as to earliness or otherwise, or generally of excellence or otherwise of the various varieties cannot be dealt with yet. Mr. Sturt mentioned the other day that in his enclosed garden, where he had put out plants of just a few of the varieties, that they were with him far earlier and larger than was the case with our trial. But, as the primary object was to show the merits of the varieties to the allotment holders, it was needful that the trial should be conducted under precisely similar conditions to those furnished to their own Cabbages.

LETTUCES IN FRAMES IN SPRING.

WE can never rely upon having a good supply of salading in this country, say, from March to May, without giving Lettuce frame protection. Even in the most favoured parts it is necessary to give this tender plant some protection. There are many excellent varieties, but not one can stand between 20° and 30° of frost just as growth is vigorous. Another great evil, and quite as difficult to fight against, is damp and fog. Only last winter I noticed that strong seedlings collapsed, even when under glass, after a spell of damp, foggy weather. After many years' trial I have found that the best results are obtained from sowing one of the early varieties, such as Golden Ball or Golden Queen, in December, and planting out on a warm bed of leaves and litter when the plants are large enough, frames having been put over the beds when placing the soil. Hand-glasses or boxes may be used. In boxes the seedlings do best given a little warmth at the roots at the start. I find plants sown in the open in August or September less reliable than seed sown in heat and grown on as advised, giving glass or frame protection from start to finish. G. W. S.

FEEDING ASPARAGUS BEDS.

I do not think there is a better time for feeding



ANEMONE CORONARIA AT LA MORTOLA. (Photographed by Miss Willmott.)

Asparagus than the present—at least from, say, the middle of April to the middle of June—and no matter what food is used at this season it is able to absorb that given. Artificial manures are of great value, as they can be given so readily, and I would advise giving the food frequently in preference to one heavy dressing. For the past few seasons I have used a special Asparagus manure manufactured by Messrs. Willis, of Harpenden, and it is most beneficial. We are now dressing our forcing beds with manures; I mean the beds that have given us supplies during the past two months. I find the prepared manures referred to above of great value, and later on liquid food will be given freely. There is no better time than the present to apply it. Soot and salt dressings given in showery weather are soon taken down to the roots. Guano and fish manures are best given during the next two months, but when the last-named is given early and the food lightly raked the smell is less offensive. Give these manures aids in showery weather. If dry, then water overhead freely. Liquid manure can be given whenever obtainable. S. H. B.

LEEK MUSSELBURGH IMPROVED.

THE old form of Musselburgh Leek is so well known and has been grown so many years that I need not dwell upon its excellence. My note refers to the newer variety, a valuable selection of the older type. As most vegetable growers know,

much may be done by careful selection and seed saving from the best stocks. Messrs. Sutton have recently given us the Improved Musselburgh, a splendid addition, and certainly one of the best vegetables we have during the middle of April, and, what is important to growers, it retains its good qualities well into May. For many years I have always grown the older Musselburgh for latest supplies, as after a hard winter it is one of the few vegetables one may rely upon. I find the one named is equally valuable in this respect, as it keeps sound a long time before showing the flower spikes, and is not injured by severe frosts. To keep the roots as late as possible lift from their growing quarters at this date and place the roots under a north wall and well cover them with moist soil; this checks growth. The flavour of the variety referred to is exceedingly mild and the plant grows freely. G. WYTHES.

CORRESPONDENCE.

(The Editors are not responsible for the opinions expressed by their correspondents.)

DOUBTFUL SPECIES OF CAMPANULA.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—On page 226 of THE GARDEN I read, on the authority of Mr. Correvon, "*Campanula tommasiniana*" (this is the right spelling) "is a synonym of *C. waldsteiniana* (see 'Index Kewensis')." It would be more correct to say that it is referred to *C. waldsteiniana* as its specific type. It should be carefully observed that in "Index Kewensis" neither varieties nor hybrids are catalogued as such, the former being referred to the name of their type, the latter to that parent with which they have the greater botanical affinity, though an exception is made of a few old and distinct hybrids, which have obtained a doubtful specific rank. *C. tommasiniana* (Koch) has by some botanists been considered a distinct species. I find it clearly described, though not under that name, on page 291 of De Candolle's "Monograph of the Campanulæ," published in 1830. It had been named *C. flexuosa* by Waldstein, but De Candolle does not see sufficient cause to separate it from *C. waldsteiniana*, though he adds "an species distincta?" The same plant under the name *C. tommasiniana* is figured and described as a doubtful species in the *Botanical Magazine*, tab. 6590. This variety is far larger in all its part than the type, which is never more than 3 inches or 4 inches high, and is a neater and more flowery plant than the variety, which flowers with a long cylindrical tube, not expanding at the mouth like the flower of the typical *C. waldsteiniana*. I have cultivated both forms for twenty years, but could never make them meet in a series, though the seedlings vary so as to approach one another. The type is a native of Hungary, the variety of Italy.

Three other Campanulas may be here noticed as examples of the method adopted in "Index Kewensis" of dealing with distinct and old hybrids; the names are printed in upright type as species, followed by "Hort." (i.e., of garden origin) Habitat? The first is *C. Van Houttei*, a well-known garden plant with long pendent bells of satiny blue. It is printed in the "Kew Hand-list" as a variety under *C. latifolia*, being generally believed to be *C. latifolia* + *C. punctata*. I observe also *C. nobilimacrantha* admitted to "Index Kewensis" with similar rank on the authority of Regel (1869); this is probably the original of the same plant. We have also in the "Kew Hand-list," under *C. latifolia* a *C. Burghaltii*, differing from Van Houttei only in its paler colour. The second hybrid Campanula of the three I referred to above is *C. Hendersooi*. This, too, is catalogued in the "Hand-list" as if a species, and described as *C. alliariaefolia* + *carpatica*. I do not know whether there is certain authority for the former parent; if not I should think *C. pyramidalis* more likely. The

plant itself is excellent, but it is liable to flower itself to death.

The third hybrid is *C. haylodgensis*, named from Hay Lodge, the residence of the late Mr. Anderson Henry, who raised this and several other hybrid Campanulas. This one is given in the "Kew Hand-list" as *C. pusilla* + *C. pulla*, but it has nothing of *C. pulla* about it, and for the second parent I should certainly substitute *C. rotundifolia*. It is a distinct and ornamental rock plant, though the foliage has the somewhat sickly yellow tinge not unfrequent in hybrid Campanulas. Many other hybrids in the same genus have been recently raised and exhibited.

I shall take occasion here to mention a mysterious Campanula of which I have tried for twenty years to discover the history and nature. It is *C. nitida* of Aiton, *C. planiflora* of Lamarck. It appears frequently in nursery catalogues and works on horticulture, and has forms with blue flowers, with white flowers, and with double flowers. It is old in cultivation, being figured in Dodart's "History of Plants" (Paris, 1676). It has generally been referred to North America for its habitat, the neighbourhood of Hudson's Bay being specified. De Candolle in his "Monograph" has a large page of references about it, but seems sceptical, and, though he does not repudiate it, he notices its near resemblance to *C. persicifolia*. Asa Gray plainly disowns it as American, saying it has never been found wild there or anywhere else, and that it seems to belong to *C. persicifolia*. Having compared plants of it from several nurseries I feel convinced that it is only a stunted form of *C. persicifolia*, from the type of which I have raised seedlings very nearly resembling it. It is certainly an error in "Index Kewensis" to refer *C. planiflora* to *C. pyramidalis*, which it does not resemble either in flower or leaf; but I observe that neither *C. nitida* nor *C. planiflora* is printed in that work as a species.

A question was recently asked in THE GARDEN concerning *C. alpina* (Jacquin), a very distinct and pretty little plant. It is figured life size in the *Botanical Magazine*, tab. 957, and in Wooster's "Alpine Plants," the latter plate reappearing in Bennett's "Flora of the Alps." It resembles in general outline a miniature Canterbury Bell. I cultivated it for several years, but though said to be perennial, my plants never flowered more than once. It ripened very few seeds, which were hard to rear, so it has died out in my garden.

CHARLES WOLLEY DOD.

Edge Hall, Malpas.

GROWING CORDON APPLE TREES IN YORKSHIRE.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—I have a small garden 700 feet above the sea level on the eastern slope of the Pennine range in Yorkshire, where I want to put in some cordon Apple trees, but my gardener shakes his head and says, "You must remember that we are not in a fruit country." Shall I, an ignorant amateur, disregard that shake of the head? It seems to me that if everyone shook his head there would be no fruit anywhere about. The garden is walled round, and the soil is darkish and crumbly; they call it "loam," I think. Pray, sir, what is loam? The lower part of the garden, which slopes south, has been recently levelled up with all sorts of material, especially rich in old mortar from the interior of the house. This is not loam I feel sure, but are there any herbaceous plants or fruit trees which might thrive well in such a limey bed? Would it be possible to grow Sweetwater Grapes in the north-east corner of the garden, in the loamy not the limey part? Would a Magnolia or a Catalpa be likely to climb up the south side of the house? I do not know if Catalpas ever climb, but I am very fond of them and would like one. If you tell me that I shall be justified in trying cordons, please say what kinds you would recommend. IGNORANS.

[According to a great authority, a rich loam should consist of from 30 to 50 per cent. of clay, 3 to 5 per cent. of lime, and 2 to 5 per cent. of humus. We presume, however, that our correspondent does not wish for a learned disquisition on the classification and composition of soils. The

term "loam" has a wide application in ordinary farm and garden language, and includes such as sandy loam, dark loam, light loam, and loamy soils generally. The well-known term "dark loam," as commonly understood, may be, we think, properly applied to our correspondent's soil from his description. Provided the land is efficiently drained and the loam is of fair depth, there is no reason why with good and careful cultivation the hardier varieties of Apples should not succeed. We know something of the climate of the Pennine range in the Peak of Derbyshire, and if it is no better where our correspondent is located than it is there we agree more or less with his "gardener's shake of the head" that it is anything but a fruit country. Still, moderate success may be expected, take one season with another. Upright cordons planted in the open garden would have no chance in that part of the country, but we have no doubt, if planted against a wall with a west-south-west, or even north-west aspect, they would succeed, and a few low cordons planted by the margins of walks would also be a success, as these would be well sheltered. These low cordons are more or less ornamental by the sides of walks, and the fruit they bear is always of the best. They may be bought ready trained, either as single or double cordons. Some of our hardier Pears should succeed on the south wall of the garden, and Plums on the east. The bush form of Apple tree would be the most likely to succeed in the open garden, and they should be tried. We give the names of a few of the hardier sorts of Apples, Pears, and Plums; but in cold districts, and where the rainfall is usually heavy, it not infrequently happens that there are local varieties of fruit which succeed better than imported ones; therefore, it would be well to ascertain whether this is so or not, and plant some at least of these.

Dessert Apples, according to their order of ripening: Early Harvest, Irish Peach, Devonshire Quarrenden, Worcester Pearmain, King Harry, American Mother, King of the Pippins, Northern Spy, Hubbard's Pearmain, Brownlee's Russet, Wyken Pippin, and Lord Burghley. Cooking Apples, in the order of ripening: Domino, Prolific, Lord Suffield, Cellini, Stone's Seedling, Betty Geeson, Blenheim Orange, Lane's Prince Albert, Winter Hawthornden, Alfriston, and Royal. Late cooking: Newtown Wonder and Wellington. Pears in order of ripening. These are early and mid-season sorts. It would be useless planting late ones in your district. Doyenné d'Été, Jargonelle, Williams' Bon Chrétien, Fondante d'Automne, Triomphe de Vienne, Beurré Hardy, Louise Bonne of Jersey, Marie Louise, Doyenné du Comice, and Seckle.

Plums, the earliest dessert: July Green Gage, Reine Claude de Bavay, Kirke's, Ickworth Impératrice, and Jefferson. Cooking: Victoria, Prince Englebert, and Diamond.

On the lower part of the garden sloping to the south, which has been filled up with old mortar rubble, &c., provided a liberal quantity of loam has been added to this and properly mixed with it, almost anything would succeed well, excepting those subjects that dislike lime, such as Rhododendrons. The back might be planted with beautiful hardy-flowering shrubs, such as Lilacs, Laburnums, Almonds, Bird Cherry, Honeysuckle, Philadelphus, the Plums, with a good proportion of the hardiest varieties of Moss and other Roses between them. The lower part of this border might be reserved for herbaceous plants, a little Alpine rock garden might be arranged, or the whole bank could be formed into a Rose garden. Fruit trees would also do well, as they delight in soil in which lime is present.

Magnolia grandiflora is amongst the strongest growing and most handsome of the Magnolias, both in respect to foliage and flower, and, being of North American origin, may succeed fairly well in this cold district, planted on the side of a house facing south. The roots and foliage must be protected by some covering during very severe frost.

The Catalpa is not suitable for planting against the wall of a house, but is very handsome when on

the lawn or on the margin of lakes or banks. The branches of the Catalpa should be pruned back in the winter to three or four eyes. By this treatment much larger branches and finer foliage are obtained than if left unpruned. Catalpa bignonioides is the best. As this also is a native of North America it may succeed with our correspondent in any case. Being such a handsome tree it is worth a trial.]

RUBUS DELICIOSUS.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—This plant is gradually being recognised as one of the most beautiful of hardy flowering shrubs. Like every member of the Rose family its flowers are delightful. They are pure white, while the brown anthers give them an enhanced beauty. When first introduced some doubt was expressed as to its hardiness; it was consequently grown as a pot plant and given the shelter of a greenhouse. Even now it is more frequently found growing against a south wall, which shows that there still exists a doubt as to its hardiness. As far, however, as this part of England is concerned, there need be no fear whatever about this. It is seen at its best and in its true character when planted in a sunny nook in front of taller shrubs and as an isolated specimen. In such a position it is now one mass of beautiful pure white flowers.

It is by no means a gross growing plant like its relative *R. phoenicolasius*. A good soil is quite essential to its successful growth. A sandy loam of good quality, with some leaf-soil and a little well-decayed manure will provide this. Take care to give the roots plenty of space at the time of planting. It is a shrub quite worth taking trouble with.

There must be some mistake about its name, for I find that in Nicholson's Dictionary it is described as having purple flowers. The plant growing here was supplied by Messrs. Veitch, and I noticed it growing in the Westonbirt collection under the same name as that given by Veitch, also as pot plants in another nursery. I for one would like to see this discrepancy cleared up, and trust some competent authority will do so in the pages of THE GARDEN. T. ARNOLD.

The Gardens, Cirencester House.

ROYAL GARDENERS' ORPHAN FUND.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—I am sure most readers of THE GARDEN will agree with Mr. Penny that the above excellent gardening charity well deserves the support of all who are interested in horticulture. Although he mentions that a donation this year should be given on account of the Coronation, I fear there will be many calls on gardeners locally, but with such a splendid chairman and thorough horticulturist this year for the annual festival the Orphan Fund should benefit greatly. I think if Mr. Penny will look back for fifteen years and note what rapid strides this charity has made, the amount of invested funds, and the orphans the charity have assisted, he will have no cause to complain. Sometimes the whole of the candidates are placed on the pension list—evidence of the flourishing condition of the organisation. Take the older charity—the Gardeners' Royal Benevolent Institution—that assists men and women in their old age and sickness, and whose claims are nobly advocated by the Editor of THE GARDEN and the other horticultural journals. The first fifteen years the progress of this institution was miserably slow, and even now, considering its age, the funds are not so large as they should be to enable the increasing number of those who need assistance receiving benefit. Both societies are doing a noble work, and I would also ask help for the older institution when a trifle can be spared.

AN OLD SUBSCRIBER.

ROYAL HORTICULTURAL SOCIETY'S MEMBERSHIP.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—There seem to be a few points, perhaps a little bald and sordid when put into words, but, nevertheless, probably present to the minds of a

good many Royal Horticultural members who are neither wealthy, in a big way of business, or possessed of natures of god-like selflessness that might as well be ventilated, if only by a member so insignificant as to be safe from suspicion of ulterior motive. Lately the society has increased immensely in membership, and it is for the executive to consider what was the attraction inducing such membership, since any falling off or decrease in members may in the future hamper the society greatly in the management of the large new responsibility it has undertaken. For town members the new hall is, of course, delightful, and in return for their subscriptions they get free admission practically to an unending series of flower shows. For members with horticultural businesses the new hall offers, of course, immense advantages from the exhibitor's and advertiser's point of view. Neither of these classes probably care at all about the plants which they, in common with other members, receive from the society's garden; but to the rank and file of country members, many of whom joined the society in the beginning, the Journal and the plants they receive annually are the chief, and in some cases no doubt the only, inducements of membership. If the garden is shelved or thrust into the background both these branches must necessarily suffer; the transactions in loss of interest, and the plants in lack of rarity and variety, and what will be offered in their stead to distant or country members either unable or unwilling to go to London for the shows?

It is all very well to talk about the ethical interests of horticulture, and the beautiful unselfish feelings with which the altruist should seek to advance the general good, but I fear the poor, only human, country Fellow of the Royal Horticultural Society will be preferring in the future to spend his annual guinea in buying the latest garden publications and the exact plants he wants from the neighbouring nursery garden to paying to the Royal Horticultural Society's coffers and receiving no particular benefit in return, except a glow of beneficence on behalf of the exhibiting and exhibition visiting member. In the old days the Botanical Gardens used to be what they are not now, and they ran, I believe, somewhat the same course that the Royal Horticultural Society seems to be now starting upon. I do not enlarge upon this because I cannot give chapter and verse, but it is a pity the example of these gardens, as they are now, should be lost. M. L. W.

(A Member of the Royal Horticultural Society).

SKIMMIAS.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—I was pleased to see an illustration of *Skimmia Foremani* on page 160. *Skimmias* are

very ornamental, and, as they are at their best during the winter months, this enhances their value. They succeed best in a rather shaded position and light, well-drained soil. A mixture of loam, peat, and leaf-mould in equal quantities suits them admirably. *Skimmias* are well adapted for conservatory decoration in winter, the bright scarlet berries, which are produced in clusters, forming a striking contrast to the bright green leathery foliage. When required for that purpose the plants should be lifted with good balls of soil in November, potted, and well watered. A cool temperature is essential, as the least coddling causes the leaves to turn yellow and the berries to shrivel. If desirable, they may be kept in pots for several years, the pots being plunged in ashes



STONE STEPS IN THE LATE MR. SELFE-LEONARD'S GARDEN AT HITHERBURY, GUILDFORD.

in summer, but they do best when planted out in spring and allowed to grow two years before being again potted. *S. japonica* is a favourite variety, the dark red berries being very attractive. *S. oblata* is one of the best, and the flowers are very fragrant. I have never known birds to take *Skimmia* berries.

J. CRAWFORD.

STEPS IN THE ROCK OR WILD GARDEN.

In making steps in the rock garden or any wild ground it is important to keep them of rather rugged character. They may be none the less easy to go up and down, but if they are too exact or have their edges squared they are

out of sympathy with their surroundings. The pretty steps in the illustration are a good example of how such steps should look, though some near the top are perhaps a little too rudely suggestive of a possible sprained ankle. When one is among pretty plants one wants to look at them rather than at one's feet, and rock steps may be none the worse to look at if they are 2 feet wide in the tread and not more than 5 inches high; indeed, they are all the better for being broad and shallow.

NOTES FROM SCOTLAND.

THE ROYAL CALEDONIAN HORTICULTURAL SOCIETY, in conjunction with the Scottish Horticultural Association, has decided to hold a summer show in the Music Hall, Edinburgh, on July 16, when Roses, Carnations, Sweet Peas, Strawberries, and other fruits, plants, and vegetables will be shown. No prizes are offered, but medals or other awards will be given to meritorious exhibits. This decision to work harmoniously together is a step in the right direction.

MR. WHYTECK, of Dalkeith, exhibited at the April monthly meeting of the Scottish Horticultural Association a collection of thirty-six kinds of Apples, to which a special cultural certificate was awarded. Apples generally have not kept so well as usual.

DR. STUART'S PLANT COLLECTIONS.—I hear that the collection of rare alpine and other plants growing in the garden of the late Dr. Stuart, of Chirnside, N.B., is to be sold by private treaty, not necessarily in one lot, so that people who wish to possess any of the rarities in which Dr. Stuart took a delight may be able to do so.

THE WEATHER.—We have been experiencing very cold nights for some time, and in early localities the Apricot and Peach crops are seriously threatened. Fortunately, the weather is dry and so far favourable. Seldom, indeed, has the soil been in better condition for spring cropping; it is dry and friable, and work is consequently well forward. R. P. B.

GARDENING OF THE WEEK.

INDOOR GARDEN.

STOVE CLIMBERS.

DISBUD the weak growths of Allamandas and Bougainvilleas and tie in the strong shoots. Stephanotis and Dipladenias should be kept thoroughly clean and the shoots neatly tied near the glass. Ipomœa Horsfalli, Jasminum gracillimum, and Thunbergias that have finished flowering should now be pruned, removing the shoots that have flowered and the superfluous growths to encourage vigorous shoots for next season's flowering.

THE GREENHOUSE.

Constant ventilation may be afforded greenhouse plants; the amount of air given should be regulated by the temperature out of doors. Avoid cold draughts. Genistas and Deutzia gracilis, as they pass out of flower, may be pruned and placed in a warm house and freely syringed until their growth is finished. Tie in the growing shoots of Bignonias, Lapagerias, Passifloras, Swainsonias, and Tacsonias.

PERSIAN CYCLAMENS.

Those forward enough should be potted into 4½-inch or 6-inch pots. The best soil to use is a rich fibrous loam three parts and leaf-soil one part, with a liberal addition of wood ashes and silver sand. Do not use manure in the soil. Nourishment is best applied in liquid form when the plants have well filled their pots with roots. Take care to afford proper and efficient drainage. Place the plants in a warm close frame near the glass on a bed of ashes, shading, and syringing with soft water morning and afternoon until they are established. In about a week after potting

gradually diminish the heat and give more air; carefully avoid cold draughts. Extreme conditions of temperature are injurious, and too much shading must not be given or the plants will suffer. Cyclamens should never be allowed to suffer for want of water, as this will soon render them a prey to red spider, thrips, and green fly. Should these pests make their appearance, dip the plants in a mixture of soft soap and tobacco water, using 3lb. of soft soap dissolved in six gallons of soft water, adding one quart of tobacco water. Before they become dry again dip in pure soft water.

CENTROPOGON LUCYANUS.

Cuttings of this useful autumn and winter-flowering plant may be inserted singly in small pots filled with a light compost of loam, peat, and sand, and placed in a propagating frame having a temperature of about 60°.

CAMPANULA PYRAMIDALIS.

Give the plants that were placed in their flowering pots in the autumn and are now beginning to show flower frequent applications of liquid manure. Seedlings grow so freely that it is not necessary to prick them off round the edges of pots or pans, but transfer them singly into small pots, using a light soil and providing good drainage.

PROPAGATING.

Cuttings of Eranthemums, Libonias, Eupatoriums, Thysanacanthus rutilans, Pentas carnea, Hibiscus, and Tabernaemontana should be inserted in small pots and plunged in a propagating frame having a good bottom heat. JOHN FLEMING.

Wexham Park Gardens, Slough.

THE FRUIT GARDEN.

PEACHES AND NECTARINES.

THE neglect of timely eradication of green fly is not an unimportant cause of failure in the cultivation of these fruits, and so quickly is injury done to the young growths by this pest that the trees should be sprayed as soon as the fruit is set, and at short intervals subsequently, with Quassia Extract or some similar efficient insecticide. Disbudding of shoots will call for early attention, and it is best carried out at intervals extending over a few weeks by beginning with foreright shoots. Matured trees should be regularly furnished with sufficient young growths to ultimately clothe their whole surface with young wood to supply next year's crop of fruit. Young trees must be provided with all the necessary extension shoots, and in every case disbudding ought to be completed before the growths become woody. Shoots of this strength cannot safely be removed without the aid of a knife. These operations must be followed by the thinning of the fruit where they are thickly set, but a good surplus should for the time being be left. In low-lying situations subject to late frosts there should be no undue haste in finally removing the protecting material.

STRAWBERRIES.

Directions have previously been given for cleaning and manuring plantations of this fruit, and now, or at an early date, they require to be mulched, for the purpose both of keeping the soil moist and the fruit clean. Nothing is more suitable for this purpose than fresh stable litter, freed from droppings, thinly spread over the soil between and close to the plants. By doing this early the material is thoroughly cleansed by rain before the fruit ripens, and the plants, especially in dry seasons and where they are growing upon light soils, are materially assisted.

FORCED PLANTS.

These carry excellent crops of fruit the first season after being planted out, and some, notably Vicomtesse H. de Thury, bear good fruits the first autumn. The plants must be carefully hardened, and the ground prepared for them by being heavily manured, and either trenched or deeply dug. They may be planted in rows 2½ feet apart and 2 feet asunder in the rows, or a little closer if space for this cannot be spared. It is important to make the plants firm. Much benefit will result

from mulchings of short litter and by the plant being kept free of runners and weeds.

SPRAYING APPLE TREES.

The blossom buds of Apples will soon expand, and the first spraying with Paris Green—the utility of which for the purpose of destroying the caterpillars of the winter moth and other injurious insects has become generally recognised—should be given immediately before this takes place. Continue the spraying at weekly intervals after the flowering period has passed. Here this insecticide is applied with apparent benefit at the rate of 2oz. to twenty gallons of soft water mixed with Bordeaux Mixture; thus a remedy for the attacks of caterpillars and mildew or other fungi is at hand and labour saved. It should be mentioned that this compound is poisonous. THOS. COOMBER.

The Hendre Gardens, Mommouth.

THE KITCHEN GARDEN.

ONIONS.

COMPLETE the planting of all raised under glass as speedily as possible. Plant carefully and make very firm about the roots, and, unless the weather is showery, frequent sprinklings overhead will be necessary to promote a quick growth. Those sown in the open early last month will now be coming through the ground, and should receive a good dusting of soot and wood ashes. Keep the surface ground constantly stirred with a Dutch hoe.

PARSNIPS.

should be treated in precisely the same way. Soot, besides being a good stimulant, does much to prevent the foliage from becoming disfigured by the fly which often attacks them in a young state.

BETROOT.

The main sowings should now be made whenever the weather is favourable on ground deeply worked and not manured, that occupied with Celery last year being very suitable. Holes should be made when ideal specimens are required and filled up in the same way as for Carrots with finely sifted soil. The larger-growing kinds, such as Pragnell's Exhibition, will be better left for another ten days or a fortnight, or the roots will in all probability be too large either for home use or for exhibition.

CELERY.

Prepare trenches at once for the earliest sowings. It is far better to put out the plants in a small state—providing, of course, they have been properly hardened—than to allow them to become starved. Early Gem is a capital variety for early use, as it matures quickly and takes up little room. The trenches should be taken out a good depth and nearly filled with good manure. I prefer that from the stable to any other. I consider it a mistake to plant too far away from the surface, especially on wet, heavy ground; it is only necessary to have a channel sufficient to receive plenty of water. The ridges should be furnished with Lettuce, where they will do well and will not be detrimental to the Celery crop.

SALSAFY AND SCORZONERA.

The first sowing of these useful winter crops should be made now, and another in a fortnight's time. If sown too early many of the plants will run to flower, and are then worthless. To obtain clean specimens, deep, finely broken up soil is necessary.

PEAS.

Plant out all that have been raised in boxes before they become drawn, and avoid overcrowding, especially in the case of all large-podded varieties. Continue to make frequent sowings in the open, so that no break in the supply is likely to occur. Place traps for mice and rats where these abound, and protect the young growths against birds.

GENERAL WORK.

will consist in sowing and planting out the various crops which have been wintered under glass, and give constant attention to those already established in the open and growing in frames, pits, &c. Severe frosts may occur at any time during

the next month to ruin many of the more tender subjects if left to chance, whereas a small amount of protection will make them safe. The ground should be cleared of all winter crops, such as Turnips, Kales, Brussels Sprouts, Broccoli, &c., as they can be spared to prevent them starving the ground. Well manure and trench the various plots, and allow the ground to rest as long as possible. Weeds should be rigorously kept down at this season and the ground kept well hoed among all growing crops. The more often it is moved among such crops as Cabbage, Cauliflowers, Spinach, Turnips, and Lettuce the more rapid will be the growth, and, at the same time, the ground will be freed from weeds. The walks should be kept thoroughly cleaned and rolled, and neatness throughout the kitchen garden should be the order of the day, so that this department may be equally as enjoyable and interesting at this season as it is useful.

E. BECKETT.

Aldenham House Gardens, Elstree, Herts.

THE FLOWER GARDEN.

BEDDING-OUT will now be the principal item of garden work, and as early as possible every detail should be arranged, so that whenever the weather is suitable the beds and borders can be planted without any unnecessary delay. I find it very convenient, and the means of avoiding mistakes, to mark out the spaces for masses and lines, and indicate by means of labels the contents of each prior to commencing the planting out. Where

CARPET BEDDING

is indulged in, it is more than necessary that the tracing should be worked out on paper before attempting it on the ground. Success in bedding out depends upon proper method and arrangement. Herbaceous borders should now be gone over and cleaned and all rearrangements completed, leaving the plants in bold groups to show their colour and form to the best advantage. Hollyhocks and all tall-growing plants, such as Delphiniums, Phloxes, &c., must be staked early.

VACANT SPACES

in the herbaceous borders should be filled tastefully with choice annuals, and care should be taken to thin them sufficiently and proper attention given to ensure the plants becoming vigorous and free-flowering.

HUGH A. PETTIGREW.

Castle Gardens, St. Fagans.

OBITUARY.

MR. TEMPLE.

WE are sorry to have to announce the death of Mr. Temple, of Carron House Gardens, on April 16, after a long and very painful illness. His career as a gardener is well known to many horticulturists, for he has been long in the front line of successful cultivators, and a thorough all-round gardener. In his early years he had the good fortune to be employed under some of the best gardeners in Scotland and England.

For a good many years when gardener at Bilbirnie he held a foremost place as an exhibitor of collections of fruit at the Edinburgh shows, where it is always difficult to get a premier place. From Bilbirnie he went to take charge of the gardens at Blenheim Palace, and from there to Impney Hall, where he carried out all the work connected with the laying out of the grounds and new gardens, and laid the foundation for the successful fruit culture since practised there. On leaving Impney he was engaged by Sir T. B. Brodie, Bart., to make the entirely new gardens at Carron House, where for twenty years he has carried out a most successful example of high culture in all departments.

Mr. Temple was an enthusiastic gardener, and could not be easily excelled in the production of successional crops both of vegetables, hardy fruits, and fruits under glass. He was held in high estimation by his employers and by all who came in

contact with him. He will be much missed in the district of Carron, where he made himself useful in many ways. He was a man of high moral tone and a most valuable servant. He is survived by a widow and grown up family.

JAMES PENTLAND.

JAMES PENTLAND, the dean of Baltimore florists, passed away very suddenly in the small hours of the morning of March 19, at the venerable age of eighty-one years. He was without doubt one of the oldest active florists in the United States, and had been in business at his original location for more than half a century. He was born at Grey Abbey, County Down, in the north of Ireland, on October 28, 1821. His family came to America when the boy was eleven years of age, locating at Philadelphia, but removing to Baltimore in 1837. In 1849 he bought the property opposite the cemetery entrance, where he conducted the business until the day of his death. He gave particular attention in the early days to garden Roses, and prior to the Civil War he was given credit for having the largest collection and probably the largest output of plants of any florist in the country. Mr. Pentland also grew the Camellia extensively, and some of his seedlings are still in the trade. He was a man widely esteemed for his personal qualities, and his conversation was rich in reminiscences of the notable events of his long career. —*American Florist.*

NURSERY GARDENS.

DAFFODILS AT MESSRS. BARR AND SONS.

TO the majority of persons there are four seasons in the calendar year, spring, summer, autumn, and winter, but the gardener sub-divides these into seasons all his own, as certain flowers annually make their appearance at more or less regular periods. Thus there are the Crocus, Daffodil, Tulip, and Rhododendron seasons as well as a host of others, each clearly defined to the garden lover, although the date of each may vary according to the humour of the weather clerk. At present it is almost superfluous to say it is Daffodil time, and in the minds of many Daffodils and Messrs. Barr and Sons are inseparably associated, at least all who have had the pleasure of visiting the Surbiton nurseries during April and May will not hesitate to admit.

To-day there are some hundreds of thousands of Daffodil flowers—amongst them many of the most beautiful varieties known—nodding their dainty heads to the breeze, and making a ripple upon a sea of yellow and green. What innumerable shades of these colours are perceptible when one examines the flowers and foliage more closely; an expert can, in many instances, distinguish between different varieties from the form and colour of the foliage alone, so greatly do these vary.

Here and there amongst the Daffodils one comes across masses of Muscari, or of early Tulips, which add a further touch of brilliant colour to this nursery of flowers. In a few weeks it will be Tulip time, and the gorgeous display that only acres of Tulips can make is indicated by the immense quantity of buds that are making ready to burst. And to those who love masses of brilliant blazing colour Tulip time in Barr's nurseries will be even more fascinating than Daffodil time. But to concern ourselves with the latter is the work of the moment, and although it would be impossible to attempt to describe or enumerate even the best of the enormous number of Narcissi grown here, one cannot refrain from referring to a few of particular merit.

There are some Narcissi that are eagerly sought after year by year, despite the introduction of so many new sorts, and of such are Leedsii, Mrs. Langtry, bicolor grandis, Barri conspicuus, Emperor, Empress, Sir Watkin, Queen of Spain, &c. Of these and many other well-known varieties the

Surbiton nurseries contain enormous quantities. A flower that we were particularly delighted with is Maggie May, the largest and most beautiful of the Leedsii section. The flowers have a spreading white perianth and very large pale citron frilled cup; this variety has also the merit of being a strong grower. Narcissus Weardale Perfection is a flower that will doubtless always be sought after. It is one of the finest of Daffodils; the perianth is large and white and the trumpet of great size, in colour a lovely pale primrose-yellow. Lucifer, with a large white perianth and an intense orange-red cup, is a bold and handsome flower, and the plant is a vigorous grower.

A Daffodil that has been prominent lately is King Alfred, bearing very large yet refined flowers of a uniform rich golden colour; the trumpet is large with deeply frilled edges. Sentinel (bicolor), with pure white perianth and short clear yellow trumpet, the flowers just overtopping the foliage and well justifying the varietal name by their aspect; Willie Barr, a trumpet Daffodil with a soft yellow-coloured perianth, the trumpet a deep yellow; Phyllis (Leedsii), a lovely flower, having a white perianth and straight canary-coloured cup; Monarch, one of the very best of the golden trumpet Daffodils; Mme. de Graaff, a well-known beautiful white trumpet; Glory of Leyden, another giant trumpet flower; J. B. M. Camm, a beautiful variety with a white perianth, and a trumpet of pale chrome-yellow, are a few remarkable flowers.

Perhaps as delicately beautiful and charming as any is the Narcissus known as Apricot. The flower is of moderate size, but its colouring is unique. The perianth is white, the long straight trumpet opening a soft primrose and passing to a rosy apricot buff. The flowers are also sweetly scented, and Messrs. Barr say that it has the merit of being a strong grower. Such a Daffodil as this needs to be seen to be fully appreciated, a pen picture can give but a poor impression of its beauty. And there are many other of Messrs. Barr's Daffodils of which the same may be said. We were privileged to see some of the choicest and best that the Daffodil world can show in that part of the nursery devoted to seedlings, many yet unnamed. Prominent amongst many most beautiful flowers it is not difficult to distinguish the magnificent new Narcissus Peter Barr, a pure white trumpet. Our note concerning it when it was recently awarded a first-class certificate by the Royal Horticultural Society will bear repetition. It cannot be compared to any other. It is longer in the crown than Mme. de Graaff and rather less revolute at the brim, while the perianth impresses one with its greatness and its beauty. The flower Peter Barr has assuredly wrested the laurels from Mme. de Graaff, a variety that has long been considered the finest white trumpet in cultivation. Narcissus Peter Barr is the result of crossing Monarch with Mme. de Graaff.

SOCIETIES.

TRURO DAFFODIL SHOW.

A BEAUTIFUL DISPLAY.

ON April 15 the show of the Cornwall Daffodil and Spring Flower Society was held at Truro. In former years the Concert Hall was utilised, but want of space, leading to the overcrowding of exhibits and discomfort of visitors, the more roomy Market Hall was this year engaged. So numerous, however, were the entries, there being eight in the premier Daffodil class and from ten to thirteen in some of the others, that many of the exhibits had perforce to be staged so closely together that their beauties were not as apparent as they would have been had greater space been available. The Royal Horticultural Society was represented by the Earl of Ilchester, the Rev. G. H. Engleheart, Mr. A. H. Pearson, and the Rev. W. Wilks. The influential executive committee was composed of the most noted flower lovers of the county, and the arduous duties of hon. sec. were, as usual, ably performed by the Hon. John Boscawen. The showroom was filled to overflowing by visitors from the counties of Cornwall and Devon, and, although numbers of these reached Truro by road, the fact of every seat being filled in the up and down expresses in the early evening testified to the concourse that made use of the rail, while residents in many of the towns in the North of England were also present. The flowers staged in the Market Hall were indeed worth a long journey to see, many of the Narcissi, the product of priceless bulbs not yet in commerce, being a

revelation to those whose knowledge of the race was confined to the commoner varieties, while no county but Cornwall could produce such a wealth of Rhododendrons in the open air as those which made up the magnificent collection shown by Mr. D. H. Shilson.

The earliness of southern Cornwall was well exemplified by the presence of specimens of many flowering shrubs and plants in blooms that in colder districts will not be at their best for another month or more. As far as Narcissi are concerned one of the most attractive exhibits in the show was a collection of hybrid seedlings raised by the Rev. G. H. Engleheart and staged by him, not for competition. A certificate of merit was awarded to this collection, and the Royal Horticultural Society bestowed an award of merit on one of the varieties, Coronation Year, a fine bicolor incomparabilis. Other noteworthy varieties in this interesting stand were Vivid, Sparklet, Asteroid, Corona, Sceptre, Delicata, and Althaea, all brightly tinted citron and peach, with apricot-buff cups; Syren, a beautiful drooping white, with long trumpet; Chaucer, a fine form of poeticus, with deep red eye; Plenipo, a double between Sulphur Phoenix and Orange Phoenix; Sea Nymph, Chloris, Waterwitch, and Loreley, graceful whites; Torch, Spinaker, Procure, Regent, Electra, Sybilla, and Ariadne. Many of these are certain to take a forward place in the near future. Awards of merit were given to Mr. J. C. Williams for Weardale Perfection, Will Scarlet, Anura, and No. 226, the latter an enormous self yellow trumpet Narcissus, and to Lady Margaret Boscawen for Lucifer and Lady Margaret Boscawen. Certificates of merit would undoubtedly have been awarded to a few other flowers of striking excellence but for the rule that these should not be granted unless three or more flowers of the variety were shown.

The twenty-five classes for Narcissi were divided into two sections, in the first of which no flowers were admissible which were grown from bulbs above the value of 10s. each, while in the second section no limit was set to the value of the bulbs. In the latter section some exceedingly beautiful flowers were shown.

The chief prize in the Daffodil classes, for the best collection of not less than thirty or more than forty varieties, including Magni-Coronati, Medii-Coronati, and Parvi-Coronati, five to seven blooms of each variety, was won by the Rev. Arthur Boscawen with a bright and well set-up collection, evidencing high cultural skill, the second prize being taken by Mr. P. D. Williams, the third prize by Lady Margaret Boscawen, and fourth prize by Miss F. Currey of Lismore, Ireland.

In the class for six distinct single varieties Magni-Coronati, with no limit to the price of bulbs, Mr. J. C. Williams won first prize with a superb stand composed of Glory of Leyden, Emperor, Mme. de Graaff, Weardale Perfection, Mme. Plemp, and No. 226, already described.

In six distinct varieties Medii-Coronati, and six distinct varieties Parvi-Coronati, Mr. J. C. Williams again took the first prizes, in the former class with Will Scarlet, Una, Gloria Mundi, and three fine unnamed seedlings, and in the latter with Anura and five excellent unnamed seedlings.

In the class for fifteen distinct varieties Mr. J. C. Williams, who possesses a large collection of the best of the new Narcissi, won first prize with White Lady, Snowdrop, Naiad, Dorothy Kingsmill, White Queen, and ten unnamed seedlings.

Mr. J. C. Williams also won first prize for the finest single bloom of Magni-Coronati with No. 154, a large sulphur-white flower something after the style of Mme. de Graaff, with slightly pendent head, Mr. P. D. Williams taking second prize with No. 83, a big flower of the colour of Emperor, with wavy perianth.

The first and second prizes in the next class, for the finest single bloom Medii-Coronati, were won respectively by Messrs. J. C. Williams and P. D. Williams, the first with White Queen and the second with Lulworth, while Mr. J. C. Williams also took first prize in the class for the finest single bloom Parvi-Coronati with No. 304, a very fine seedling of the poeticus section, Mr. E. H. Williams being second with Blood Orange, primrose perianth and glowing orange-scarlet cup.

In the three classes for single flowers of English-raised varieties not in commerce some remarkable blooms were staged. For Magni-Coronati Mr. J. C. Williams was first with No. 348, a very large sulphur-white with spreading trumpet, Mr. P. D. Williams being second with a clear yellow slightly drooping flower, and Mr. C. Williams third with a fine bicolor possessing an enormous spreading trumpet. For Medii-Coronati, Mr. C. Williams was first with a large bicolor seedling, Mr. P. D. Williams being second with White Lady. For Parvi-Coronati Mr. P. D. Williams was first with a large and well-shaped poeticus with spreading red eye, and Mr. J. C. Williams second with another fine poeticus seedling.

Of spring flowers other than Narcissi, the Rhododendrons formed the chief feature. In Mr. D. H. Shilson's matchless collection, which won first prize, and was deservedly awarded a Flora medal, were over 200 flower trusses of rare and beautiful sorts. One named Beauty of Tremough, a large soft pink flower, a hybrid between R. Anckland and R. Thompson, was granted a first-class certificate, and amongst other noteworthy species and varieties represented were R. Falconeri, R. argenteum, R. Dalhousie, R. Edgeworthi, R. Shilsoni, and R. eximium.

For six trusses of outdoor Rhododendrons, distinct, six trusses of greenhouse Rhododendrons, distinct, and for the finest truss of outdoor Rhododendron, Mr. D. H. Shilson won all the three first prizes.

In the class for the finest truss of greenhouse Rhododendron, the first prize was won by Mrs. J. Williams with magnificent R. Nuttall. The truss consisted of five blooms, each fully 5 inches across their expanded trumpets, of the purest white externally, and tinted with yellow at the base of the cup's interior. This was one of the most striking exhibits in the show.

In Camellias many superb blooms were shown, the peerless C. reticulata, by far the largest and most beautiful of

the family, beating all opposition, some of the flowers being 6 inches in diameter.

In the classes for hardy unforced herbaceous spring flowers and outdoor flowering shrubs many species were exhibited that proved the geniality of the climate of the district. Mr. P. D. Williams, who took first prize in the former class, showed Muscaris, Primulas, Erythroniums, Trilliums, Fritillarias, and other flowers, while in the stand of the winner of the second prize, Mrs. Powys Rogers, were Myosotidum nobile and Sparaxis, and in another collection the lovely pale yellow Gladiolus tristis, an April flowerer and sweet-scented at night. In the flowering shrub class the first prize was won by Mr. D. H. Shilson with a stand containing Embotridium coccineum, Lilacs (Syringa), Azaleas, Spireas, Prunus, &c. Other spring flowers included Anemone coronaria, A. fulgens, Polyanthi, Primroses single and double, and Violets, all of which were well shown.

Nurserymen's exhibits were interesting. Messrs. Robert Veitch and Son, Exeter (silver-gilt Flora medal and certificate of merit) had a fine display of rock plants, including Saxifrages, Androsaces, Sedums, Opuntias, Shortia galacifolia, Tiarella, Primulas, Sarracenias, &c., and also a good collection of flowering shrubs.

Messrs. Curtis, Sandford and Co., Devon Rosary, Torquay (bronze Banksian medal and certificate of merit), showed cut and pot Roses, Violets, &c.

Messrs. Barr and Sons, London, staged a fine assortment of Narcissi, and were awarded a silver-gilt Banksian medal and certificate of merit as well as awards of merit to Narcissus Lucifer and Monarch.

Messrs. Gauntlett and Co., Redruth (silver-gilt Flora medal and certificate of merit), showed Bamboos, of which the firm makes a speciality, Camellia reticulata, Banksia quercifolia, Andromedas, Lilacs, Rhododendrons, Magnolias, M. Osaka being granted an award of merit, Senecio rotundifolia, Fremontia californica, Grevillea rosmarinifolia, and other flowering shrubs.

Messrs. Treseder and Co., Truro (silver Flora medal and certificate of merit), showed a stand which was chiefly remarkable for Tree Ferns, of which the firm has supplied numbers to sheltered gardens in Cornwall and South Devon, importing them annually from Australia and New Zealand.

NATIONAL AURICULA SOCIETY.

At the beautiful exhibition in the Drill Hall on Tuesday last the collections of species and their varieties of Primulas were in excellent form, and P. obconica, and especially the collection from Audley End, could be seen in many charming varieties. The fine new form of P. viscosa, bearing the name of Spring Beauty, was shown in excellent character, and it is difficult to imagine a better subject in its way for pot culture than the attractive Yellow Gem Auricula from Brighton, shown by Messrs. W. Miles and Co., nurserymen, Hove, and which received an award of merit from the National Auricula Society. The giant Polyanthus and coloured Primroses were of good character, and it was pleasant to see the double Primroses so well shown by Messrs. I. House and Son, Bristol. They have evidently hit upon the manner of growing the brilliant double crimson to perfection, for they had it in remarkably fine character. The old late double yellow, or Cloth of Gold, was also in good bloom.

Show Auriculas.—"An excellent show," was the generally expressed opinion. Young and old growers alike were jubilant at witnessing a revival of interest in the Auricula, and the number of entries in the leading classes was very encouraging to the committee and officers of the society. In the class for twelve varieties, Mr. James Douglas, florist, Great Bookham, was placed first. Of green edges he had Abraham Barker, a northern-raised flower; Shirley Hibberd, one of Ben Simonite's seedlings of several years ago; and Chloe (Douglas), the last named a promising variety not yet distributed. Of grey edges there were George Lightbody, Richard Healdy, and George Rudd, each of which commemorates an old-time florist of repute. White edges: Vesta (new), Acme, and Mrs. Dodwell; selfs, Mrs. Potts, Raven (Simonite), and Ruby, by the same raiser. Mr. William Smith, Bishop's Stortford, who tries hard to displace Mr. Douglas, but as yet without success, was second. He had Abraham Barker and Abbé Liszt as green edges; George Lightbody and Rachel as his best grey; Acme, Elaine, and Lady Randolph Churchill, white edges; Miss Barnett and Gerald, selfs. These were his leading flowers. Mr. Charles Turner, Royal Nursery, Slough, was third, and Mr. Purnell-Purnell, Streatham, fourth. There were ten collections of six show Auriculas—quite a record number—and here Mr. Douglas was again first with some well grown and bloomed plants. Of green edges there were Abraham Barker and Abbé Liszt; grey edges, George Lightbody and Rachel; white edge, Venus; and self, Ruby. Mr. J. Sargent, Chobham, was second, and Mr. W. Smith third. There were seven entries of four varieties, and here Mr. J. Sargent came in first with green edge Abbé Liszt, grey edge George Lightbody, white edge Acme, and self Miss Barnett. Messrs. Phillips and Taylor, florists, Bracknell, were second, and Mr. J. W. Euston, The Gardens, Great Geareia, third. In the class for two plants there were eight entries. Mr. J. W. Bentley, Stakehill House, Castleton, Manchester, came in first with white edge Beauty and self Gerald. Mr. J. Clements, Birmingham, was a close second, and Mr. A. S. Hampton, Reading, third.

In the class for one green-edged Auricula Messrs. Phillips and Taylor came in first with Shirley Hibberd, and Mr. J. Sargent came next with Abbé Liszt, Mrs. Henwood, also from Messrs. Phillips and Taylor, taking the third prize. Grey edges: First, Mr. J. T. Bennett-Poe, Cheshunt, was first with George Lightbody, and Mr. R. Staward was second with the same. Rachel was placed third and fourth. White edges: Acme, the most perfect of white edges when at its best, won the first five prizes, and in the class for selfs the same good fortune befell Mrs. Potts, the best blue self in cultivation.

The premier show Auricula had to be selected from the foregoing collections. It was green edge Mrs. Henwood, exhibited by Messrs. Phillips and Taylor.

In the class for fifty Auriculas Mr. J. Douglas had the first prize with one of the best collections we have seen staged in this class for years. Of green edges there were Dr. Hardy, Rev. F. D. Horner, Greenfinch, Abbé Liszt, and Mrs. Henwood. Grey edges: Perseverance, a very promising new variety; George Rudd, Col. Champeys, and Mabel. White edges: Elaine, a very chaste new variety; Conservative, and Heather Bell. Selfs: Cleopatra, Ruby, Mrs. Potts, and the yellow Buttercup. We unfortunately missed the second and third prize winners, but we think Mr. Purnell-Purnell was second.

There was a class for six green-edged Auriculas, not less than three varieties. Mr. J. Sargent took the first prize with Shirley Hibberd, F. D. Horner, James Hannaford, and Abbé Liszt. Mr. W. Beale, Hayes Place, came second; he had John Garrett, Abraham Barker, F. D. Horner, and James Hannaford. Mr. C. Turner was third.

There was a maiden class for four show Auriculas. Mr. J. Clements took the leading prize with Roits Green, Acme, Conservative, and Heroine, self.

In the class for seedling Auriculas awards were made only in the green-edged class, Mr. J. Douglas taking the first prize with Lincoln Green, a highly-promising variety, and he was second with Triumph. Wild Swan (Douglas), a variety much resembling Acme, is a good variety if sufficiently distinct.

Alpine Auriculas.—These were, as usual, very showy, as they are allowed to carry more than one truss of bloom, though, as could be seen in the case of not a few of the varieties, fading flowers contrast unfavourably with the fresh ones. It would be well, as was suggested at the judges' luncheon, that one truss only of bloom should be on exhibition specimens. There is now a great range of varieties of this section; they increase with amazing rapidity. Mr. Douglas, especially, has given us some brilliant flowers of fine quality. There were several collections of twelve varieties, Mr. J. Douglas taking the first prize with such fine golden centres as Urania, Firefly, Duke of York, Ziska, J. F. Kew, The Bride (a charming, soft-coloured variety), Hiawatha, Dean Hle, and Mrs. Markham; white centres, Ivanhoe and Thetis. Mr. J. W. Euston, Great Geareias, was second; he had, in fine character, Duke of York, The Bride, Urania, Julia Lodge, Rosy Morn, Hiawatha, and Hilda; third, Mr. C. Turner. With six varieties, Mr. Douglas was again first, having varieties similar to those in his twelve; Mr. J. W. Bentley was second, and Mr. Euston third. With four varieties, Mr. Bentley was first, and Mr. J. T. Bennett-Poe second.—Alpines, single specimens, gold centres: Messrs. Phillips and Taylor were first and fourth, with Mrs. Martin R. Smith; Mr. Douglas second and third with Ziska. White centres: Mr. Euston first with Hilda, and fourth with Desdemona; Mr. R. Dean, Ealing, was second with Lottie; and Mr. Douglas third with Mrs. H. Turner. The best six alpine Auriculas in the maiden class came from Mr. J. Clements. The premier alpine was Duke of York, the finest alpine ever raised, shown by Mr. J. Douglas.

Fancy Auriculas.—These are the indescribables among the show Auriculas, and it seems a pity a class for them is retained. Mr. J. Douglas was first, and Messrs. Beale and Euston second and third.

Species of Primulas.—These are always interesting. Mr. J. W. Euston was first with red and white forms of P. japonica, two of P. Sieboldi, two of P. obconica, P. verticillata, P. floribunda, P. farinosa, P. Forbesii, P. Auricula. Mr. Purnell-Purnell was second; he had, differing from the foregoing, P. mollis, P. denticulata, P. viscosa, and P. apennina. Mr. W. Beale was the only exhibitor of six species; he had P. cortusoides and P. Auricula marginata, with very large, thick, rounded, powdery leaves, and trusses of small, deep orange flowers.

Groups of species and varieties in box or basket.—In this class Mr. Purnell-Purnell had several bold species as a background, and a foreground of charming show and alpine Auriculas, mingled with double and single Primroses; Mr. J. Vert, Audley End, came second, with a basket of charming varieties of P. obconica.

Polyanthus Giant.—The best basket of these came from Mr. J. D. Williams, St. Keverne; Mr. S. Mortimer, Swiss Nursery, Farnham, was second.

Primroses.—Messrs. House and Son had the best twelve pots of these, and Mr. R. Staward was second; but in neither case were they so good as we have been accustomed to see them. The best six pans of doubles were from Messrs. House and Son; they had the crimson Cloth of Gold, white, lilac, red, and Croussii, the two first very fine. Polyanthus Gold-laced: These were poor; it is a pity someone does not attempt their culture, so that the public may see them in better form. Mr. Beale had the best basket of Primroses, and Messrs. House and Son were second.

At the luncheon, held in the Hotel Windsor, Mr. Pope, of Birmingham, was in the chair, and was supported by Messrs. Harry Turner, James Douglas, Richard Dean, Henwood, and other florists, over thirty gentlemen being present.

NATIONAL CHRYSANTHEMUM SOCIETY.

WE have received the schedule for the exhibitions for 1902, to be held respectively on October 7, 8, 9; November 4, 5, 6; and December 2, 3, 4. At the November exhibition Sir Albert K. Rolitt, M.P., president of the society, offers a special first prize for a floral display of Chrysanthemums and suitable foliage plants in pots, with the addition of cut blooms and any appropriate cut foliage. In the great vase class four money prizes of an aggregate value of £50 are offered, and there are numerous other special prizes offered.

DAFFODIL AND SPRING FLOWER SHOW AT IPSWICH.

A BEAUTIFUL show was held at Ipswich last week, and Mr. John Andrews, the well-known secretary of the Woodbridge Horticultural Society, and Mr. A. E. Stubbs must be heartily congratulated. Our report has got crowded out this week through pressure upon space.

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[MAY 3, 1902.]

TREES AND SHRUBS IN POOR SOILS.

AS there is vegetation to suit nearly all natural conditions, so those who find they have to undertake planting in poor, dry hungry sands and gravels will find that there are plenty of trees and shrubs that can be used, though the choice is necessarily a more restricted one than they might make on better land. The very fact of the fewer numbers of available kinds may even be a benefit in disguise, as by obliging the planter to use fewer kinds the planting scheme will be all the more harmonious.

As to trees, Holly, Thorn, Juniper, Birch, Scotch Fir, and Mountain Ash are found wild on the poorest soils, and will even grow in almost pure sand. Oaks, though they never grow to the dimensions of the Oak of loamy woodlands, are abundant on poor soils, where they have a character of their own that is full of pictorial value. The lovely Amelanchier, daintiest of small trees, revels in sandy woods, as does also the Bird Cherry, another good native flowering tree, while the wild Cherry becomes a forest tree of large size and of loveliest bloom. Ilex and Arbutus are excellent in the south of England, enjoying the warmth and winter dryness of light soils.

Garden shrubs in general can be grown, though not so luxuriantly as on better soils, but some classes are especially successful on poor land. These are the Cistuses and Heaths, with Lavender and Rosemary in the drier parts, and in the wetter places Kalnias, Andromedas, Rhododendrons, Ledums, Pernettyas, and Vacciniums, with the Candleberry Gale and the native Bog Myrtle. These, which are usually classed as peat shrubs, will succeed in any sandy soil with the addition of leaf-mould, and are among the most interesting and beautiful of our garden shrubs.

Those who garden on poor and dry soils should remember that though their ground has drawbacks it has also some compensations. Such soils do not dry in cracks and open fissures in hot weather, and do not present a surface of soapy slides in wet; they can be worked at all times of the year except in hard frost; they are easy to hoe and keep clean of weeds, and are pleasant and easy to work. They correct the tendency of stony soils to the making of a quantity of coarse rank growth, and they encourage the production of a quantity of flower of good colour.

"A Reader," who does not wish to give his name, writes reminding us of the beauty of big groups of Cistuses on the fringe of woodland where Heath and Birch are happy. Plants of *C. laurifolius* are now several feet high, and it is pleasant to see the big white purple-stained flowers open in the early morning before the midday sun makes the frail petals flutter to the ground. How much joy can be got from poor soils when one knows the right things to plant!

THE HORTICULTURAL HALL.

It is with no desire to rush the horticultural hall project to a conclusion, and then begin digging a new garden, that we ask the council whether an appeal will be soon issued for funds to carry out the scheme decided upon at the meeting held on March 21 last. We believe in the old adage that it is wise to strike while the iron's hot, and the enthusiasm of the moment is an opportunity to take advantage of for collecting substantial subscriptions, which in soberer moments are given with greater deliberation. There is probably a good reason for the delay, but we have been asked by many well-wishers of the society whether the council, after the trials of formulating the scheme, are not enjoying a sweet but somewhat dangerous repose.

EDITORS' TABLE.

Now that flowers will shortly be in plenty we shall be glad to see any either of special beauty, rarity, or good cultivation.

From Mr. George Paul comes a superb bunch of bloom of his new seedling Tea Rose

QUEEN OF SWEDEN AND NORWAY, of tenderest flesh white deepening to the centre. Mr. Paul says it has a particularly fine habit, and is very free.

We receive from Mr. Kingsmill a superb bloom of NARCISSUS DOROTHY KINGSMILL (a cross of triandrus and grandis which two years ago received the Royal Horticultural Society's first-class certificate), an even more beautiful flower in its purity of colouring and stoutness of perianth than Mme. de Graaff.

NARCISSUS BENNETT-POE.

Another very beautiful bloom of the same class of colouring with a straight trumpet is Narcissus Bennett-Poe. From Mr. Kingsmill.

HOVEA CELSI.

"I am sending you a photograph of Hovea Celsi,

also a flower. The plant is growing here on a wall in a cool conservatory; it is apparently rare, as we have tried to get it from all the leading firms, but without success. It has Pea-like flowers of a deep blue colour, and they are produced very freely in March."—F. STEADMAN, *Newark-on-Trent*.

A beautiful flower of an intense blue, with a little white at the base. It is an old favourite of ours. The photograph was unfortunately too indistinct to get a good result from.

From the garden of the Rev. Canon Bernard at Salisbury come flowers of

IRIS PUMILA

of a very fine strong purple colour. The name has been confirmed by the highest authority, and this interesting note is sent by Mr. Bowerman, the gardener: "I am sending for the Editors' table blooms of *Iris pumila* (true), which is, as you will see, quite distinct from the *Iris pumila* usually grown. The plants were collected by a friend of the Rev. Canon Warre from a rock on the Danube, where they were said to form a brilliant sheet of colour. Even in an English garden the abundance of flower completely hiding leaves and rhizome is a very marked feature."

CYDONIA MAULEI SEEDLINGS AND C. KNAPHILL SCARLET.

Mr. Anthony Waterer sends from Knaphill a delightful box of seedlings of *C. Maulei*, the most interesting series we have seen, beautiful in their varied shades of scarlet, orange-scarlet, and almost soft apricot, every twig crowded with blossom. We can commend these lovely shrubs for the garden at this season and at other seasons, for they commence to bloom very early in the south, and a scattered succession is kept up until the autumn. We like the spreading and picturesque look of this Quince. A group on the lawn is a picture of colouring and spreading growth. *C. Knaphill Scarlet* is now well known, or should be, as it is the most brilliant of its race. We are glad to be again reminded of its colouring and freedom. This variety of *Cydonia* is one of the most beautiful shrubs of the garden.

NOTES OF THE WEEK.

FORTHCOMING EVENTS.

May 3.—Meeting of the Société Française d'Horticulture de Londres.

May 6.—Royal Horticultural Society's Committees meet, Drill Hall, Buckingham Gate. Meeting of the National Amateur Gardeners' Association, Horticultural Club, 6 p.m.

May 7.—Royal Caledonian Horticultural Society's Spring Show at Edinburgh (two days).

May 8.—Royal Gardeners' Orphan Fund Annual Dinner, Hotel Cecil, Leopold de Rothschild, Esq., in the chair.

May 12.—Committee Meeting United Horticultural Benefit and Provident Society.

May 20.—Royal Horticultural Society's Committees meet. Royal National Tulip Society's Exhibition (Southern Section). Both at Drill Hall, Buckingham Gate.

May 21.—Ancient Society of York Florists

Show. Exhibition of the Société Nationale d'Horticulture de France (six days).

18 May 24.—Annual Meeting of the Linnean Society.

19 May 27.—Annual General Meeting and Dinner of Members of the Kew Guild at the Holborn Restaurant.

May 28.—Temple Show of the Royal Horticultural Society (three days). Annual Dinner of the Gardeners' Royal Benevolent Institution at the Hotel Metropole.

Royal Gardeners' Orphan Fund.—The annual dinner of this institution will be held on Thursday next, at 6.30 for 7 p.m., at the Hotel Cecil. The chair will be taken by Leopold de Rothschild, Esq.

Primula frondosa.—This pretty little Primula is at present very bright on a ledge in the rock garden at the Edinburgh Botanic Gardens. The flowers are pink, contrasting well with the grey foliage. It is apparently a very free thing and easily grown.—N. B.

Chrysanthemum Illustrations.—Mr. W. J. Godfrey, The Nurseries, Exmouth, Devon, has sent us a large sheet bearing reproductions of four of his remarkably fine and latest seedling varieties of the Chrysanthemum. By exhibitors and others interested these illustrations will be welcomed as excellent reproductions of Mr. Godfrey's novelties, although those who had not actually seen the flowers might be disposed to question the accuracy of the size and colouring. That these are not exaggerated, however, all who have seen the original blooms, shown by Mr. Godfrey for the first time last season, will admit. The varieties illustrated are Godfrey's Pride, Exmouth Crimson, Masterpiece, and Sensation.

The late Mr. Temple.—The death of Mr. Mungo Temple, at Carron House, Grangemouth, removes one of the best of the older Scottish gardeners. Mr. Temple's strong point was fruit-growing, and when at Mr. Balfour's place at Balbinnie in the sixties he adopted the system of keeping Lady Downe's Seedling Grape till the succeeding summer. Samples he showed at London were, I believe, awarded by the Royal Horticultural Society a medal, which he declared never reached him. For a few years he had charge of the Duke of Marlborough's gardens at Blenheim, whence he went to Impney Park, Droitwich, where he laid out the gardens, returning to Scotland about twenty years ago. Mr. Temple was a very hard worker, and up to a late date wrote a good deal in gardening periodicals. He also lectured occasionally, and at one time was a well known judge. Hardy fruits latterly had been his hobby, and the last paper read before the Scottish Horticultural Association was one by Mr. Temple on "Root Management."—R. B.

Cactus Dahlias.—I saw just recently, in the frames of a well-known grower of Cactus Dahlias, some 500 to 600 sturdy seedlings raised this spring of this Dahlia section. If but a dozen other raisers have so many, thus running into several thousands, it will be no matter for surprise if quite 100 seedlings at least be presented to various bodies for awards next autumn, as to put even one-half of these seedlings into commerce, supported by awards of merit or other certificates, would be to honour many flowers of relatively inferior merit. We have been far too liberal in making awards to them as it is, and now we hear complaints from growers as to lack of constitution and difficulties of propagation. If in relation to constitution it is not possible in the seedling stage to offer any opinion, at least the requirements as to floral quality should be now very high, and only flowers be honoured that show distinctive advance over those already in commerce. I fear that severe censorship will not be possible so long as raisers themselves constitute the tribunal.—A. D.

Polyanthuses at Rowledge.—Whatever may be the estimate formed of the plants in pots which Mr. Mortimer, of Farnham, showed at the Drill Hall on the 22nd ult., most certainly he has a beautiful show of them in his grounds at Rowledge, where they are grown by thousands. When I saw them the other day, beyond seeing the myriads of plants in bloom, I could but admire

the thousands of young plants raised from a sowing made in shallow boxes last August, kept in cold frames all the winter, and during that time dibbled out 2 inches apart into other shallow boxes, so that when planted out towards the end of March the seedlings were strong plants and well rooted. Such plants, now well established, will develop into very large clumps by next spring and carry fine heads of bloom, thus making a truly splendid show. That is the way to grow border Polyanthuses. Were autumn sowings of new seed generally practised and early spring planting, border Polyanthuses would soon become the most popular as well as beautiful of all early hardy spring flowers.—A. D.

The New Horticultural Hall.—Why do not the council rise to the occasion, at once open a subscription list, and publish the results weekly? My impression is that they can have all the requisite money if they will only set about it in a businesslike way. I fully expected when the resolution was passed to hear that the metropolitan nurserymen, who are about the only people to receive any substantial good from the society's meetings, would be scrambling over each other in their anxiety to get in first with their big cheques. Of course they may have done all this, so far not recorded. Referring to published letters, I think "Country Parson" has not so much grievance as he seems to think. Country Fellows, so far as I know, are not refused any voice in the matter: they all knew, and are at perfect liberty to subscribe according to their means. It is difficult to see how your correspondent, being unable to visit the present Drill Hall, situated in London, would be better able to visit a new garden which would probably be situated thirty or forty miles farther off. "Lax" is too dilatory. The new hall scheme was not sprung upon anybody. All the Fellows knew, and those who had an axe to grind or an objection to raise found it convenient to attend the meeting. I can scarcely be called a country Fellow, being well outside the outer fringe. All the same, when the thing is fairly started I will send the council a slip of paper with some figures on it.—T. SMITH, *Nerry.*

Horticultural Club.—Probably the vast majority of Fellows of the society are unaware of the existence of the Horticultural Club, and yet it is a very pleasant little club, and does a vast amount of good work for horticulture. Sir John Llewelyn, Bart., is the kind and genial president; Harry J. Veitch, Esq., is the treasurer; and E. T. Cook, Esq., has quite recently been elected secretary, in the place of that veteran octogenarian gardener, the Rev. H. H. Dombain, who has acted as secretary since 1865, and is now obliged to retire on account of increasing infirmities, but who carries with him the love and good wishes of every member of the club, indeed of all who have ever met him. The subscription to the club is only £1 ls. a year, and the pleasant house dinners which are held once a month on one of the R.H.S. Tuesdays form delightful little reunions of a small band of ardent garden lovers, whose one wish is that others would come in and enjoy these evenings as much as they themselves do. At most of the house dinners a short paper is read on some horticultural subject, and a general discussion ensues, as gentlemen sit over their nuts and port, or coffee and cigars, as best they like. All is very informal, very homely, but, as Sir John said recently, "I have spent some of my pleasantest evenings in London at this club." So we think many others would find it if they would but join. "But how can we join?" Well, write to E. T. Cook, Esq., care of R.H.S., 117, Victoria Street, Westminster, S.W., and you will learn how. The club, too, serves as a most useful adjunct to the R.H.S. For the society has no convenient means at its disposal for offering the compliment of hospitality to any foreigner of horticultural tendencies who visits our not too hospitable shores, and this defect the club supplies, for if any foreigner of any distinction in the gardening world visits the R.H.S. at any time, the club is always ready and willing to offer hospitality and give a hearty welcome. At present the club barely numbers 100 members, all told; we should indeed be pleased if 100 more who read

this very commonplace note would at once enrol themselves.—From "Journal of the Royal Horticultural Society," April, 1902.

Bignonia tweediana.—Among the more uncommon plants shown at the Royal Horticultural Society's meeting on the 8th ult. was this Bignonia, which Mr. Lynch had sent up from Cambridge. It is well worthy of a place among the most select members of this extensive family, but is very rarely seen, though introduced from South America over sixty years ago. Of less vigorous growth than many of its allies, it may be successfully grown within a more limited space than most of them. A considerable amount of sunshine, in order to thoroughly ripen the wood, is essential towards the successful flowering of most Bignonias, and this is no exception to the rule. It is seen to the best advantage when the principal branches are secured to a rafter in an intermediate house or in a similar position and the slender shoots allowed to depend therefrom in their naturally pretty and graceful manner. Considering that they are so thin, the size of the blossoms which they produce is very remarkable, while the golden-orange tint of the flower is also very striking. Like all the other members of the genus the flowers of this are somewhat trumpet-shaped, the expanded mouth being often 3 inches or even more across.—T.

Border Auriculas.—The season has so far influenced the hardy border Auriculas that they are this spring coming into bloom simultaneously with the Polyanthuses, which are rather late. They are more May than April flowers. However, they are always welcome in the spring, and because of their beauty can hardly flower too early. I have recently been looking over several diverse quantities of these plants, and regret to find how very indifferent for the purposes of garden decoration many of them are. Either they have weak, lop-sided stems or the flowers are of poor quality or deficient in pleasing colours. In one of our popular public gardens, where many Auriculas are grown, the flowers are generally very dark, some almost black. It need hardly be said that such flowers furnish no elements of beauty. One of the things which some florist amateur might undertake is the creation of a really fine bedding or border strain of Auriculas. It need not be necessarily a long process. A great deal could be accomplished in ten years, and that is not so much in the lifetime of a youngish man. Auriculas seed freely, and if seed be sown in pans or shallow boxes very soon after it is ripe growth is quicker and more general. It is but needful to keep the seedlings, which are necessarily small, in a cold house or frame for the winter. Then, in May, they are strong enough to dibble out into good fine soil outdoors, where occasionally water if needful, and for a week or two shaded, they soon become established and grow into strong plants for the border by September. Under such conditions all should flower well the following spring, and a few of the very best being marked, seed could be saved and sown as before. Were that process of selection and raising conducted with care and judgment some five or six times, there can be no doubt but that great improvement in the desired direction would be secured. The desired features in a good strain are fair robustness in all the plants, stout erect stems, bold trusses of bloom, good-sized, flattish-round pips, and effective colours in them. We have in Auriculas far too many dark or heavy hues, and very many more that are exceedingly washy or ineffective. No one of such should be bred from. It may even be desirable to lift good seedlings and plant them where quite isolated from the rest, with the exception of others specially found desirable. When good form, substance, and colours had been secured, it may then be possible to get definite colours separate, as there can be no doubt but that clumps of plants, say seven or nine in borders, would be far more effective than single plants can be. It is much to the credit of border Auriculas that not only are they so hardy, but when fair-sized clumps they can be lifted, divided, and replanted, and thus good defined varieties would become plentiful.—A. D.

Flowers in Park Lane, Hyde Park.

—The recent cold weather has somewhat retarded flower expansion in this park, always interesting and instructive in spring time, but some of the beds are well forward, and recent notes of these may prove of practical interest. In what may be called self beds, viz., those devoted to one colour, amongst Hyacinths may well be mentioned Grand Maître, deep porcelain-blue, extra large, and three good blues in Regulus, Orondes, and La Peyrouse. Whites: Blanchard, pure white, early, La Grandesse, also a pure white, extra large flower. Charles Dickens is a splendid rose flower, large truss, and Robert Steiger is a fine red and of extra quality. There are also some good mixtures. The national colours are well represented in one particularly good and effective bed—Leonidas, light blue, extra large truss; La Franchise, pure white, large bells; and Queen of Hyacinths, brilliant red. Other noteworthy beds are Baroness Van Thuyll, pure white; Leopold II., deep porcelain-blue; Lord Macaulay, splendid carmine, large truss; and Narcissus Sir Watkin, with its rich sulphur perianth. Hyacinth La France, white; Marie, dark purple-blue, immense spike; and Von Schiller, red, is another good combination. A very pleasing bed is composed of La Grandesse, white; Marie, blue; and a band of Orondes, blue, in fine condition. An attractive bed is that composed of La Franchise, white; Leopold II., blue; and Jonquil Campenelle, and the same remark well applies to Queen of Hyacinths, brilliant crimson-carmine; Charles Dickens, blue; and the very deep yellow and handsome Narcissus maximus. Hyacinth alba superbissima, pure white, large, and the fine and well-known Narcissus princeps, with a band of Hyacinth Robert Steiger, red, is a mixture that at

once attracts attention. A good bed is that planted with Hyacinth Lord Macaulay, red, and the Campenelle Jonquil with a band of Hyacinth Baroness Von Thuyll, Hyacinth gigantea, delicate pale rose, fine spike; Marie, blue; and Narcissus Sir Watkin was a fine bed. Narcissus princeps with a carpet of Grape Hyacinth (Muscari botryoides), with its lovely deep sky-blue flowers made a charming combination. A bed of Jonquils carpeted with the beautiful little blue Scilla sibirica looked most effective, as did Jonquils carpeted with Chionodoxa Luciliae and Muscari botryoides. A large round bed, presented an attractive appearance planted as follows:—Centre, Hyacinth Baroness Von Thuyll, white; four rows around of Robert Steiger, red; and four rows of Grand Maître, blue. Narcissus maximus carpeted with Scilla sibirica made an effective bit of colour. A brave show is made in a border just to the west of the Marble Arch planted with Hyacinths, Narcissi, and Tulips in large panels.—Quo.

AGAVE AMERICANA.

THE old notion that the Giant Agave, or American Aloe, as this plant is popularly but erroneously called, flowered but once in a hundred years is still believed in by some people, who when told that it is a myth appear quite disappointed, and their interest in the plant is gone. To the enthusiastic gardener, however, the plant can never be without interest, its noble appearance, large, fleshy, and bold foliage, and, when it flowers, its tall, stately inflorescence, terminated with hundreds of small tubular flowers, stamp it as one of

the most distinct plants in the garden.

The legend about the period of flowering arose no doubt through the fact that the plant flowers but once, then dies, and that it takes many years to gain sufficient strength to produce its great inflorescence.

No particular age can be given as the most likely one for plants to flower, everything depending on the conditions under which they are grown. Instances have arisen of plants flowering when little more than twenty years of age, whilst others quite double the age show no sign of flowering.

The species is figured in the *Botanical Magazine* t. 3654, and the following interesting particulars are given of a plant which grew and flowered in a Devonshire garden.

It was grown in the open ground in the garden of Mr. James Yates at Woodville, near Salcombe, Devon. It was planted in 1804, being then two or three years old and 6 inches high. The position given was close to the sea shore and 40 feet or 50 feet above water

level. It never had cover, shelter, manure, or special cultivation. In 1812 it was 5 feet high, and grew about one-eighth of an inch daily. In 1820 it measured between 10 feet and 11 feet in height, and covered a space with a diameter of 16 feet, the bases of the leaves being 9 inches thick.

In June of that year the flower-stem appeared. For the first six weeks it grew 3 inches daily, afterwards growing more slowly. The first flowers opened on September 3, others continuing to expand until December. The total height of the inflorescence was 27 feet. It bore 40 flower bunches, which bore collectively about 16,000 yellow-green flowers. A good idea of the stately appearance of the plant may be gathered from this and the accompanying illustration. At Kew there are a number of very large plants of the type and variegated varieties, and at intervals of a few years flowers are to be seen. W. DALLIMORE.

THE FLOWER GARDEN.**THE PROPAGATION OF PERENNIALS**

PROPAGATION of perennials from seed, at any rate on an extensive scale, has only recently been adopted in the majority of private gardens, but now that really first-class things are secured in this way when seed is obtained from those firms who make a speciality of hardy flowers, it may safely be recommended as an easy and interesting process. If good plants are wanted for next autumn seed should be sown at once. My friend Mr. William Barr always recommends sowing in boxes, but where large quantities of each species or variety are not required I prefer some low two or three-light frames resting on an ash bottom; the plants have more scope here, and do not dry out so quickly if transplanting cannot be promptly attended to; indeed, if sufficient room is available, the plants may be thinned out in the drills, and those that remain can stand until they can be shifted to permanent quarters. If they show signs of deterioration before this can be effected they can receive some doses of liquid manure in a weak form. Old potting soil that has been sifted forms an excellent compost for seed sowing; if a little on the stiff side fine leaf-soil and a dash of road sand can be added. If any seeds sown are very small it will be advisable to sprinkle a little sand along the drills instead of filling these in. The question of selection of different species and varieties is a matter for individual requirements; it is, however, a tolerably safe rule to go in for those things that are alike gay on the border and useful in a cut state. E. BURRELL.

PELARGONIUM F. V. RASPAIL FOR BEDS.

THE above Pelargonium has long been appreciated at its true value for pot work, and it holds its own among sorts of recent introduction, whether in the doubles or semi-doubles, but it is not often seen out of doors. Here, however, it is quite at its best, and having tried it one season I have since always set apart two large beds on turf for its summer quarters. It is not advisable to manure the beds where it is to be planted, as, under such conditions, growth is very strong and bloom proportionately scarce, but if the natural soil is on the light side some 6 inches of it may be removed and a similar quantity substituted from a heap of rather stiff road sidings. The result will be short, stocky growth, an abundance of flower, and good trusses that are thrown well above the foliage. On the occasions—and they are not infrequent—when scarlet flowers are in request for ordinary vase work or table decoration a gathering of the largest and brightest trusses will be very acceptable. I may add that the cultural note in connexion



AGAVE AMERICANA IN THE GARDEN (F MR. LEWIS FRY, GOLDNAY HOUSE, CLIFTON, BRISTOL.

with the beds is applicable to all *Pelargoniums* of vigorous habit. An occasional dot plant is advisable to relieve the somewhat flat appearance of the beds, and after trying variegated *Abutilon*, *Eucalyptus citriodora* and *Gypsophila* I should pronounce for the last-named. Small clumps are sufficient, and one stem only should be allowed on each; these should be lightly staked so that the spreading panicles are well above the foliage of the *Pelargoniums*. The trusses of the latter mingling with the light feathery growth of the perennial give a very pleasing effect.

Clarrmont.

E. BURRELL.

KITAIBELIA VITIFOLIA (WILLD.) WITH GOLDEN-YELLOW VARIEGATED LEAVES.

IN September, 1896, I showed and described some grafting experiments I had made between some of the *Malvaceæ* and *Solanaceæ*. These descriptions were subsequently published in the *Gartenflora*. By uniting them with the variegated *Abutilon Thompsoni* I had produced variegated plants of *Althæa officinalis* L. (the Marsh Mallow) and of *Kitaibelia*. The following questions arose: Will variegated branches of *Althæa* and *Kitaibelia*, if cut and separated from the influence of the *Abutilon* and then planted as cuttings and made independent, remain coloured; in the first place during summer, and further, will they, after the winter's rest in their leafless condition, produce coloured shoots in the following spring? In other words, Can one produce perennial variegated plants by the influence of the scion? Are the roots or the winter shoots likely to retain variegation, even after the loss of the original foliage? Last year I made cuttings from branches of *Althæa* which had acquired variegation; they retained the colouring throughout the summer. Four of them I planted in the garden and they have made handsome plants, but so far they have green leaves only. With regard to Marsh Mallow, even if a variegated form were obtained, the plant is not good enough to render it available for garden use. *Kitaibelia*, on the contrary, is a showy and beautiful plant, 6 feet to 10 feet high, with large leaves as much as 10 inches across, and large white blossoms partly hidden. The first flowers generally remain imperfect; they wither and do not unfold even when nearly full grown. But in mid-summer, when the plants have attained their full vitality, the buds open fully and produce a certain amount of ripe seed.

Last summer I planted in the garden six plants from cuttings of *Kitaibelia*, which had become coloured through the influence of *Abutilon Thompsoni*. One of them I potted in autumn, and put it into the greenhouse in winter. The main part above the soil died, leaving only a few small shoots with puny leaves, which, however, kept alive through the whole winter. In spring eight vigorous shoots sprang up, closely covered right up from the base with mottled leaves, varying in colour from whitish yellow to golden-yellow. The longest shoots measure nearly 4 feet, with the largest leaves 6 inches across.

Even in the open air *Kitaibelia* does not die down as completely as *Althæa*, which forms round the main root large perennial crowns, surrounded by scale-like lower leaves and petioles with reduced blades. *Kitaibelia* always has very small leaves at the base, but no such clearly marked winter crowns as *Althæa*. These small leaves are probably better carriers of the variegation than the perennial growths of *Althæa*. The potted plant proved that *Kitaibelia* was coloured by the influence of *Abutilon Thompsoni*, retaining its colour whilst growing in the pot. Of course, the pot plants are weaker and smaller in all their parts than the green ones growing in the garden. Five plants with variegated leaves had remained in the open air.

To my joy this spring most of the young shoots appeared covered from the very base with beautifully golden mottled leaves. A few shoots had green leaves at first, but there soon appeared a leaf with symptoms of the variegation, which rapidly increased, and in most instances reached its full intensity after the fourth or fifth leaf.

The largest and most perfect plant has twelve shoots, some of which are nearly 5 feet high. Eight shoots showed coloured leaves either at once or after a few preceding green leaves. On four shoots, all standing closely together, there are no signs of variegation visible as yet, but I have no doubt that in the end all the shoots will become equally and entirely impregnated, and that the plants will become coloured and remain so. In most cases variegated plants do not grow so tall as green ones. Although, according to the measurements given, the coloured plants have not quite reached the height of the green ones, nor are the coloured leaves so broad as the green, yet the former look healthy and vigorous—imposing plants with golden glittering foliage. It is pleasant to notice that the coloured plants very nearly come up to the green ones as to size, and it is to be hoped they will equal them by next year. I consider the new coloured *Kitaibelia* a valuable and handsome variegated plant, a shrub in appearance, and fit for many garden uses. No coloured leaved *Abutilon* equals it in rapidity of growth, beauty and size of leaves, or intensity of colouring. *Abutilon* requires wintering in the greenhouse, or new plants must be produced by cuttings every year; *Kitaibelia*, on the contrary, lives in the open the winter through, comes up early in spring, and attains a considerable height in a very short time. The more exposed to the sun this plant is the more perfect will be the leaf-colouring. It would be interesting to see if coloured plants produced mature seed and if this will give coloured seedlings. It is easy to grow *Kitaibelia* from cuttings, which should be planted out in July or August. In this way they will be strong plants in the following year.—H. LINDEMUTH, in *Gartenflora*.

THE FLORIST'S CINERARIA.

WHILE it is not possible to include the newer starry or stellata section of *Cineraria* under

the above heading, yet these have many admirers. Some like them because they are freely branched and clusters of flowers can be cut with long stems. Others like their starlike or informal flowers, while some like them because tall they associate in a pleasing way with other plants. Still, one has but to see the truly superb show made by the fine florist's strain at Woodside, Farnham Royal, Bucks, just now to be satisfied as to the great divergence which exists between the two strains, and the capacity of the florist's section to produce very striking and indeed brilliant effects. Mr. James, who is a first-class cultivator of the *Cineraria*, grows both types, but keeps them very wide apart. Still, they afford an opportunity for visitors to compare one with the other. The florist's section is represented by over 3,000 plants, probably the largest collection in the kingdom. All are in 7-inch pots, finely grown, very dwarf and sturdy, and carrying large heads of bloom. Few plants seem to exceed 12 inches in height. This is due to the fact that they are potted firmly, are kept very cool, get plenty of air, and the show houses in which they grow are low and very light. Possibly another reason is that seed is not sown until July, a time when gardeners who like to have *Cinerarias* blooming in the winter usually have their plants in 5-inch pots and in cold frames. At Farnham Royal the plants are grown specially for seed production, hence it is best to have them blooming in April. At that time also, the houses being well thrown open, bees enter freely and render useful service in fertilising the flowers. As the plants open their flowers, they are got into blocks of colour, whether they be edged or self flowers. That is not, however, a difficult matter, as seed is sown in colours, and the reproductive powers of each hue is very marked. The pure whites, of which there are several hundreds, are bloomed in a house somewhat removed from the dark hued plants. These all have great purity of colour. Self dark hues



THE GRACEFUL STARRY CINERARIAS AT FARNHAM ROYAL.

fill one long house, beginning with brilliant blues, varying in tint, but many glorious shades, and all very fine. Then come the purples or heavy blues, followed by the crimson and heavy reds, a really splendid section giving a glow of colour in the sunlight that it is difficult to describe. Magentas follow, some of these showing rose or deep carmine tints. Then in the next house are the rose edges, followed by a huge breadth of crimson edges, then purple edges, and finally blue edges. These edged or margined flowers are perhaps the most attractive, as the white circles round the eye give life and brightness. Many of the blooms, whilst of fine form, are of great size; indeed, the dimensions generally are large enough to satisfy anyone. The entire collection makes a glorious show, and one that once seen cannot soon be forgotten. Woodside is close to the famous Burnham Beeches.

THE UNHEATED GREENHOUSE.

X.—SOME HARD-WOODED PLANTS.

It is so generally recognised that hard-wooded plants are more difficult to grow than those that are called, by way of distinction, soft-wooded, of which Pelargoniums may be taken as a type, that, with a few notable exceptions, they have well-nigh disappeared from our greenhouses. They are slow-growing, but, on the other hand, under proper treatment they are long lasting, for one difference between the two classes is this, that while soft-wooded plants seldom flower well when they are old and have therefore to be constantly renewed, the others, well grown, flower better and better in their age than in their immature youth. Probably many old gardeners can well remember some enormous specimens of the yellow-flowered Heath, *Erica Cavendishi*, of *Hederoma tulipifera*, studded all over with waxy pink and white bells, of *Aphelexis macrantha*, a sort of pink everlasting from New Holland, and others, all typical hard-wooded plants and the pride of their grower's heart, which used to travel to town from Staffordshire in their own comfortable van, year after year, to win their annual prizes at the metropolitan shows. Splendid examples they were, of which the like are seldom seen now, and, though we may not wish to own such leviathans of their race, yet it would be a great pity to let such fine things be forgotten.

Perhaps when we remember that Azaleas and Camellias may both be included in the ranks of hard-wooded plants, the cultivation of which most possessors of a greenhouse have attempted, an effort to grow others may not appear quite so formidable. At any rate, some of them are so well adapted to the cold greenhouse that they are worth any pains that can be taken with them. To begin with, the well-known Azalea indica, which always suggests a hot house, is by no means greatly addicted to heat. Large bushes in perfect health and flowering freely may be found growing in the open air in many parts of the country; yet they must be set down—with most of the other plants which come under this heading—as belonging to the half-hardy class that are grateful for protection from actual frost, chiefly because their fragile flowers are easily spoilt by bad weather, and for the greenhouse we want flowers before their due season. To induce them, therefore, to open their buds during winter or spring, as the case may be, they must be specially treated. Azaleas set their flowers so early in the autumn that we can safely predict the amount of flower to be expected from them. This process once accomplished, for which it is necessary that the wood be well ripened in the open air during the summer, it is mainly a question



THE DWARF LARGE-FLOWERED CINERARIAS AT FARNHAM ROYAL.

of bringing the plants into snuggler quarters, earlier or later, according to the time they will be required. The semi-double *Dentsche Perle*, though not so elegant as the single white varieties, of which several are good, has one excellent quality—its flowers do not drop so readily. They also possess great substance, which gives a peculiar waxy look to the petals, and it may be recommended as a desirable sort. The colours of *A. indica* range from a deep brick scarlet through pink to purest white, differing entirely from the more modern race of *A. mollis*, whose leafless branches bear clusters of large wide-open flowers of many tints, from pale sulphur to bright salmon-red. These, perhaps, have not the refinement of the older Ghent hybrids, which represent again another section, but both are very beautiful and valuable for the cold greenhouse on account of the small sized pots in which they can be grown, as well as for the showy character of their flowers. Camellias come under the same head, and, when in pots, require much the same treatment. Though in reality harder than the common Laurel, they are usually reckoned as greenhouse plants, probably for the same reason that their early flowers do not stand either frost or wet. They succeed best, undoubtedly, where they can be planted out under glass, for which their evergreen habit peculiarly fits them, as they are never unsightly. The single and semi-double kinds are by far the most interesting as well as ornamental, and there is a charming little white species (*C. Sasanqua alba*) which is well worth growing. The only difficulty with Camellias in pots or tubs is their trick of dropping their flower-buds, which generally happens when they are brought under glass from their summer quarters. After they have made their new leaves—not before—they should be plunged out of doors in a semi-shaded position, which in their case is better than full exposure to the summer sun, and they must be carefully attended to with regard to watering. When it is time to take them in, about October 1, a gradual transition from open air to frame, and from frame to greenhouse, will generally overcome the dropping tendency.

It is perhaps a little difficult to define the exact limits of a hard-wooded plant, but, speaking generally, it is one with woody stem and somewhat wiry branches, and with fine hair-like roots, which delight in a fibrous, peaty soil mixed with sand. Of such plants a Cape Heath, or for that matter our common Heather, may be taken as a type. There

are a good many shrubby subjects which may be said to take an intermediate place, the successful management of which may lead up to the more difficult New Holland and Cape plants. Amongst these easier plants to grow, which are content with good loam instead of peat, may be welcomed the Shrubby Mimulus (*Diplacus glutinosus*) with pretty salmon-buff blossoms of the Monkey-flower type, of which there is also a noteworthy crimson-red variety. One of the daintiest of the Calceolarias (*C. violacea*) may also for convenience sake be placed in this section. It may be grown out of doors; in fact, in a Dorsetshire garden under the shelter of a wall it grew into a good sized bush, 2 feet at least in height, and flowered abundantly every season until an unusually severe winter killed it. Neither its foliage nor habit nor its pale mauve helmet-shaped flowers are the least suggestive of any ordinary form of Calceolaria, and it is always noticeable in a greenhouse as it is by no means well known. *Hypericum chinense* is another twiggly, low-growing shrub which is almost hardy, and will do well either in a pot, or better still perhaps in a basket, which would suit its somewhat trailing habit. The large yellow flowers nearly equal in size those of the well known St. John's-wort (*H. calycinum*) of our shrubberies, but are much more elegant from a peculiar catharine-wheel-like twist of petals and stamens; it may be reckoned a specially fine species of an interesting genus. The more familiar *Polygala dalmaisiana* with purple Pea-flowers, with their quaint little brushes of protruding stamens, is an old favourite and presents no difficulties of culture, needing nothing more than kindly pruning to keep it in shape. Another charming Australian Pea-flower is *Swainsonia galegifolia alba*, now well known and popular; it has been found to be hardy against a wall in a sheltered Cornish garden. This may be propagated by cuttings, as the seed which it produces freely is apt to revert to the purple-flowered type. All these are easily grown, and we will now take an example of one that will give more trouble. One of the most gorgeous of Australasian leguminous plants, *Clianthus puniceus*, is sometimes called the Glory Pea of New Zealand. Those who have seen some of the cottages near Porlock, on the Somersetshire coast, with plants in full flower climbing almost to the eaves, will not be inclined to dispute the title. But it will not grow everywhere out of doors, and in that case must needs be considered a greenhouse shrub. Except for red spider there is no special



POT CHERRY GOVERNOR WOOD IN BLOOM AT GUNNERSBURY HOUSE.

difficulty in its culture, but for a long time a finer species still, *C. Dampieri*, with black blotches on its scarlet flowers, puzzled even experienced growers. The secret, however, has been discovered, and a very fine specimen in a large basket hanging in the Himalayan house at Kew has attracted much attention as well as admiration during the past season. Success depends upon the grafting of the delicate *C. Dampieri* upon a more robust stock, either *C. puniceus* or, preferably, upon the nearly allied *Colutea arborescens*, a perfectly hardy shrub, more common abroad than in English gardens. The result of this grafting is to change the intractable *C. Dampieri* into a sturdy and easily-managed plant, peculiarly well suited to the unheated greenhouse, as in a cool temperature it flowers for a length of time during the early months of the year. An account of a most resourceful method, adopted in some continental gardens, has been published, and deserves to be quoted. Seed of both stock and scion are sown in February; when the cotyledons of the young plants are sufficiently developed to handle, the terminal bud of the stock is removed and that of *C. Dampieri*—the scion—is inserted instead. The union is not hard to effect, but it is, necessarily, a delicate operation. The after culture is similar to that of other plants of like nature. The pot or basket in which this fine specimen is grown must be well drained, however, and more than usual care is needed in watering, as it is stated that the foliage must not be wetted. Probably, also, as in the case of *C. puniceus*, the less the knife is used the better. This plan of growing

soil into which to root. Above all the soil must never be allowed to become very dry, yet the drainage must be good, as stagnant moisture is equally hurtful. The winter atmosphere of the house must be dry and buoyant, for which reason a very modest amount of warmth is necessary in time of severe frost or in continued damp and still weather. Another important point in the treatment of hard-wooded plants is the judicious cutting back of the main shoots immediately after flowering. After this has been done, and as soon as a new growth has fairly started, the plants can be plunged up to the rim of the pots in cocoa fibre or ashes out of doors to rest and ripen their wood for the next season's campaign. An annual repotting is not necessary, but it should be given when required, just when the new growth has begun. Most of the plants named I have seen doing well out of doors in very sheltered Cornish gardens, therefore there is little fear that they will not do well in a low winter temperature under glass. Good cold frames or deep pits, however, as well as a conservatory, are indispensable in most gardens where the culture of plants of delicate nature such as these is attempted.

It may be useful to give the cultural details of *Hovea Celsii*, a very ornamental hard-wooded plant which has long been a favourite, though now not often met with, and of which the clusters of rich purple-blue Pea-shaped flowers are extremely attractive. This plant is more easily raised from seed than from cuttings, and the seedlings begin to make strong growth at once. As soon as they are large enough they should be potted singly

C. Dampieri is worth attention, as any gardener, amateur or otherwise, might be proud of rearing and flowering a good specimen of so grand a plant. It is not impossible that many cases of failure may have been due to over-kindness in the way of coddling, as the other species does so well in the open air in a genial climate.

To come to hard-wooded plants more strictly speaking, some of the Heaths, such as *Erica hyemalis* and *E. spenceriana*, *Correa bicolor* and *C. cardinalis*, *Bauera rubioides*, *Epacris miniata splendens*, *Hovea Celsii*, *Leschenaultia biloba* major, *Pimelia decussata*, and *Tremandra verticillata* are all suitable subjects, and likely, under careful treatment, to do well in the half-hardy house. Not long ago, in a somewhat shallow frame under a wall, I saw a batch of strong seedlings, looking like a forest of sturdy young Spruce Firs in miniature, getting ready for a shift into their flowering pots. This was in the garden of a keen amateur, who had only taken up gardening a year or two previously. All such plants as the above require a compost of good fibrous peat mixed with sharp sand, and the potting must be very firm—a point which amateurs often overlook—as the hair-like fibres prefer a hard

in 2½-inch pots, and given a shift into a larger size as the roots touch the sides and require more room, care being taken not to allow them to become pot-bound. *Hovea* has naturally rather a loose habit of growth, and may be trained either as a standard or as a bush. If the standard form be preferred, the young plant may be allowed to grow as a single stem to a height of 18 inches (or more if desired) before the top is pinched out, when it will break into many shoots. If a bush be wanted free pinching must be carefully attended to from the first to lay the foundation of a shapely plant. The soil and treatment otherwise are just the same as that of half-hardy hard-wooded plants in general, for which it will stand as a good object-lesson. It is to the disadvantage of this fine *Hovea* that it needs a large sized pot before it comes to flowering size, but it is then very ornamental. *Leschenaultia biloba* major, with still more brilliant blue flowers, is another hard-wooded plant, better known, which has not the same drawback, as it will flower in a comparatively small pot.

To sum up the requirements of these somewhat exacting plants. A compost of sandy fibrous peat, pots well drained, plants firmly potted, protection given from actual frost, a cool dry airy house in winter, modest cutting back after flowering, open air summer quarters where the pots can be plunged to their rims, and careful watering at all seasons. Where these directions can be carried out the growing of the finest hard-wooded half-hardy plants need present no insuperable difficulty.

K. L. D.

CHERRIES IN POTS.

Few subjects in late winter are invested with greater charm than are fruit trees grown under glass when in bloom, and this fact is especially emphasised in the case of an orchard house, where a collection of many kinds are brought together, and when most of them are in bloom at one period, presenting such an interesting display of flowers as would really compensate for their growth alone. How much more so then when we know that these lovely flowers are only the harbingers of better things to come in the way of a harvest of rich and delicious fruit. It is not too much to say that the Cherry bloom is as beautiful as any, and the accompanying illustrations show trees in the Gunnersbury House Gardens, so admirably managed by Mr. James Hudson.

The critical time in the cultivation of the Cherry in pots will now have passed by—I mean the flowering time—and if a good set has been obtained the work attending the growth of the fruit to maturity will be comparatively easy. The chief points to observe in order to bring about the best results will be careful ventilation, maintaining a growing and a fairly moist atmosphere, with free ventilation when the weather is favourable, and careful watering, especially until the trees attain to full leafage. All stone fruits are most sensitive to injury from careless watering, but the Cherry, I think, more so than any other, especially from the time of starting until the fruit is set and the trees in good foliage. Therefore, too much care and thought cannot be given to this work during this period. A pot will want watching for days sometimes until it is in that condition of dryness (not over dry) when it will be safe to give it a good soaking. Tepid water should be used at this early season. A keen look out must be kept for green and black fly. Both are very partial to the Cherry. The latter, once it gets a lodgment in the young leaves, will give serious trouble. It ought not to be allowed to go so far, but we know how work presses in different directions at this time of the year, so that it is quite impossible to see to everything just at the right moment. It is most destructive to the young leaves at the top of the branches, and where they are badly affected the best way will be to cut those parts away and burn them. To prevent the appearance of those aphides I have found the practice of fumigating the Cherry house with NL All as soon as the Cherry trees are taken in from their winter

quarters out of doors most useful. The insecticide can be used in stronger solution at this time—growth being dormant—than would be safe if the trees were in leaf. A second application not so strong just before the blossom buds expand will keep the trees fairly clean at least for the first part of the season. Whilst the foliage of forced stone fruit trees is tender—Peaches especially—I would recommend tobacco for fumigating in preference to XL All. Damage to the foliage not infrequently follows the use of the latter when the leaves are young and tender. Whilst cultivators are most careful in timely disbudding their under glass fruit generally, it is not always so with the Cherry, although quite as necessary in its case as in any other fruit if the best results are to be obtained.

The Cherry does not appreciate the attention given to it in the way of forcing, as we understand the term in regard to other forced fruit, such as Grapes, Peaches, and Nectarines, which, if occasion requires, can be pushed on in fairly strong heat. The Cherry resents being hurried, but by a little coaxing it is possible to considerably hasten its season of ripeness, especially after the fruit is set. We must, however, never forget that the Cherry is an air-loving tree, and therefore on all favourable occasions air should be admitted, consistent with maintaining a sufficiently warm and growing atmosphere, to produce ripe fruit towards the end of April or early in May from trees started on the 1st of January.

The growth of the Cherry can be best hastened with safety, after the fruit is well set, until the stoning period arrives, and, after this is over, until swelling is completed and ripeness begins. This is best done by closing the house early enough in the afternoon to raise the temperature to 75° or 80° for a few hours. Little or no fire-heat will be required during the day unless the weather is inclement and cold, when some must be provided in order to maintain a buoyant and growing temperature; but with plenty of sun-heat the less fire-heat we have the better. It must be provided at night to prevent the temperature falling too low by the admission of a little back air. Whilst the Cherries are stoning a cooler and more airy temperature should be maintained, and the closing of the house in the afternoon be discontinued.

The trees may be syringed freely morning and afternoon, but care must be taken that the water

used is rain water or soft water from some other source, for if the water has lime in it the fruit is tarnished and disfigured and much of its beauty and charm taken away. Whilst the trees are in active growth—that is, from the time the fruit is set until it is full grown—manure water should be judiciously applied, but never too strong. Deer manure, placed in a bag and immersed in a tank of water with a similar but smaller bag of soot, makes one of the best possible fertilisers, and this may be given at every other watering.

When the Cherry shows signs of ripeness, then a constant and free circulation of air must be provided by day, and also at night in reduced quantity. If the air gets too cold then give fire heat.

OWEN THOMAS.

TREES AND SHRUBS.

SKIMMIAS.

SKIMMIAS hold an important position amongst the smaller evergreen shrubs, both for the beauty of their flowers and fruits and the shining green of their leaves. In the flowers of Skimmias the two sexes are usually borne on separate plants, and in *S. japonica* (*S. oblata*) there are varying sexual forms differing to a certain extent in the size and shape of their leaves and habit of growth. In one form known as *S. Rogersii* the two sexes are to be found on the same plant, and I have occasionally noticed a solitary fruit or two on other forms which are supposed to be male. Probably under cultivation the Skimmia is losing its natural unisexual habit, and if raised more from seed would most likely become nearly or quite hermaphrodite.

Skimmias can be propagated by seeds or cuttings, the latter being taken from the half-ripened wood and inserted in sandy soil in a close frame, when nearly every one will form roots in from two to four weeks. Almost any kind of soil will suit them afterwards—a good, rather light loam fairly enriched with well-rotted manure is perhaps the best. They are very partial to peat and leaf-mould, but neither is absolutely necessary to their well-being. As a plant for town districts the Skimmia is not to be surpassed, as it withstands both smoke

and dust well, and will flower and fruit freely under conditions which are very trying to many other plants.

S. Fortunei is a native of China, and is a small, slow-growing and rather thin shrub with stout lanceolate leaves 2 inches to 3 inches long, and white scented flowers borne in short, terminal panicles. In the male form the flowers are more conspicuous than in the female, and the whole plant is also larger and more vigorous. One or two of the male plants should be introduced if a quantity of this Skimmia is planted, when a brilliant crop of coral-red berries will be produced. These will keep their colour and last throughout the winter, and this property makes it a capital plant for window boxes or indoor decoration. While the plants are small the berries should be picked off as soon as they begin to colour or they will seriously weaken the plants.

S. japonica (*S. oblata*) is a native of Japan, attaining with age a height of 3 feet to 4 feet and upwards of twice as much in diameter. The leaves are stout, leathery in texture, ovate or ovate-lanceolate in shape, and the edges are entire and very often of a whitish tinge. The small white flowers are in terminal upright panicles, and are larger and more strongly scented in the male than in the berry-bearing form. The fruits are oval, of a deep red colour, and freely produced if both sexes are planted together. The named forms of this plant are *S. Foremani*, figured in THE GARDEN of March 8, page 160, which is of a strong growing but compact habit, and bears bright red fruits lasting on the plant in good condition for a year or more; *S. Foremani* (male variety) which differs but little, if at all, from *S. fragrans*, under which name the male form of *S. japonica* is usually known; and *S. Rogersii*, which is of a rather dwarf, spreading habit, bearing flowers of both sexes on the same plant.

Bayshot, Surrey.

J. CLARKE.

BERBERIS NEPALENSIS.

THIS is one of the handsomest of the evergreen Berberis, and is amongst the first to come into bloom, the flowers usually opening in March, or even earlier if the weather is favourable. It is known under several names, *B. Bealei* and *B. japonica* being the two most commonly used, but the one which heads this note has the claim of priority, and is the correct one to use. Under favourable conditions *B. nepalensis* makes an upright shrub 4 feet to 6 feet high, usually consisting of four to eight stout glaucous stems, clothed with pinnate leaves upwards of a foot in length, which are of a dark shining green above and glaucous beneath. The leaves are composed of from nine to thirteen sessile leaflets, each resembling the leaf of a Holly in texture and shape, though having fewer spines. These latter, however, make up for lack of numbers by their hardness and sharpness. There are also a pair of leafy bracts at the base of each leaf, which partially encircle the stem.

The flowers are borne in terminal, upright racemes, from four to twelve of which are produced on each stem, the individual flowers being about the size of those of the common Barberry and of a sulphur-yellow colour. Seen in the early spring against a dark background the plant has a distinctly pretty appearance, while if it never flowered at all it would still be a desirable evergreen. The fruits are oval, half an inch or more in length, of a deep purple colour, and ripening in July.

B. nepalensis is a rather difficult plant to deal with, as it is very impatient of removal, and though a batch of plants may be moved without many dying yet those that live will often stand for a year or more looking very sickly and making little or no growth. In the matter of soil it does not seem to be at



POT CHERRY TREES IN BLOOM AT GUNNERSBURY HOUSE.

all particular, as I have seen it in almost every kind to be found in an ordinary garden, its only fault being its dislike to being shifted, but once it has got over this it will, though rather slow of growth, soon make a handsome and distinct plant in the garden. It is best raised from seeds, plants obtained by other means rarely succeeding well.

Bagshot, Surrey.

J. C.

NOTES ON HARDY PLANTS

IRIS ASCHERSONI.

I HAVE received from Mr. Siehe, of Messina, a dried plant and the accompanying photographs of a new Iris, *I. Aschersoni*. I do not know the authority for the name, and indeed am unaware whether the plant has as yet been described or no. It cannot be spoken of as a strikingly handsome Iris, since the colour seems to be a greenish yellow with thin purple veins; but, judging by the photograph, it is very floriferous, and so will perhaps prove a useful addition to the garden.

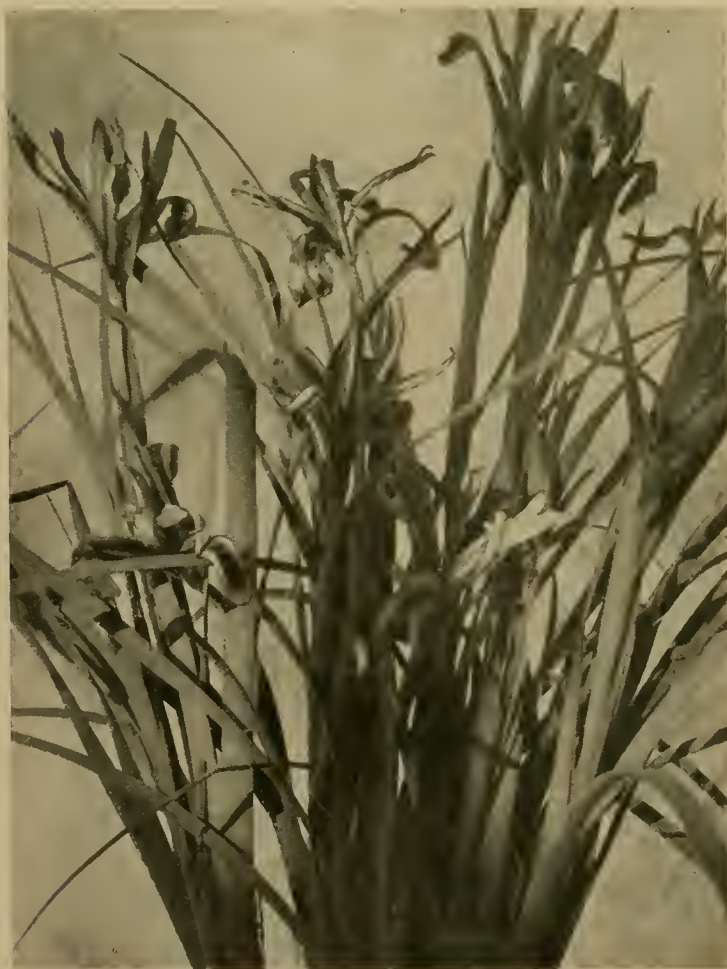
It is interesting, as being closely allied to the strange *I. Grant-Duffii*. That Iris is very remarkable for the way in which each bud shooting off from a woody rootstock becomes wrapped round with coats, the bases of old leaves, composed of stiff bristles, so that the dormant bud has in autumn the aspect of a bulb with bristling coats. The dormant bud

in *I. Aschersoni* has much the same features, except that the coats are netted and flexible; in *I. Grant-Duffii* the bristles are so stiff and stout that they readily pierce the finger. The leaves of *I. Aschersoni* are much narrower than those of *I. Grant-Duffii*, almost linear; but the two plants are obviously closely allied. It will probably need the same treatment as *I. Grant-Duffii*, namely, to be well dried off and ripened in the summer, though well supplied with water when growing in the spring.

I. Grant-Duffii comes from the west of Palestine, but this new *I. Aschersoni* was gathered in Cilicia near Adana; and there are probably in Asia Minor and Syria yet other plants of the same group. I have, for example, a third plant which my friend Max Leichtlin gave me some years ago under the name *I. Masie*; it came, I believe, from Asia Minor. It closely resembles the above two, but has deep purple flowers, and is really



IRIS ASCHERSONI.



IRIS ASCHERSONI (TO SHOW ITS WEALTH OF FLOWERS).

a handsome plant, though a shy bloomer and a "miffy doer," to use a gardening phrase.

M. FOSTER.

SAXIFRAGA CORDIFOLIA ALBA.

THIS is certainly a misnomer as applied to the Saxifrage of the Megasea section sent out under this name a year or two ago from the Continent, as in the open the flowers are not white at all, but a delicate bluish-pink. Whatever effect growing it under glass may have on the colour I know not, but certainly rosea would have been a truer name for it in the open than alba. Yet it is exceedingly pretty, and it makes a welcome variety beside the typical *S. cordifolia*, now fully in bloom near to it. This spring must have suited these Megaseas well, as they have been little

injured by frosts so far, and I can hardly recollect seeing them so good in the open here before. *Cordifolia* is one of the hardiest of this section here.

S. ARNOTT.

Carsethorn, by Dumfries, N.B.

TROPICAL FRUITS FOR ENGLISH GARDENS.

(Continued from page 269.)

CUSTARD APPLE.

THE Custard Apple is the fruit of *Anona squamosa*, a Magnolia-like bush or small tree about 15 feet high, copiously branched, and clothed with leathery oblong leaves, glaucous beneath, and in the axils of which are borne in spring solitary greenish fleshy flowers about 1 inch across. The fruit is egg-shaped, 3 inches or 4 inches long, and is composed of a number of scale-like ovaries, which are confluent and form a fruit suggestive of a Globe Artichoke or a Pine-cone. When ripe it is fleshy, the pulp yellowish, and so soft that it is difficult to handle a ripe fruit without squashing it. The flavour has been likened to that of Raspberries and cream.

In tropical countries the Custard Apple is a favourite fruit. Although originally from Tropical America, it is now wild or cultivated in both hemispheres. In India it ranks with the Mango as a cultivated fruit, ripening in May. Imported fruits must necessarily be gathered long before they are ripe. The trees

are propagated from seeds, and they grow so rapidly that they begin to fruit when about three years old.

There is a tradition in India that the god Ram and his wife Sita decided to each create a fruit that should excel all others. Ram produced the Ramphal (*phal*=fruit), or Bullock's Heart (*Anona reticulata*), and Sita the Sitaphal, or Custard Apple (*A. squamosa*). The former is not considered palatable by Europeans, although it is eaten by the natives. In the West Indies another species, *A. reticulata*, is called the Custard Apple, whilst *A. squamosa* is known as the Sweet-sop.

Custard Apple or Sweet-sop is a fruit of first-rate quality for dessert, and one which can only be obtained in anything like perfection in this country from home-grown trees. It has been successfully fruited in a few gardens here, but only casually. There is therefore an excellent opportunity for some enthusiast to distinguish himself by devoting a house to its cultivation. There is no doubt that it can be done successfully, because plants grown in pots under ordinary stove treatment, and without any particular attention, flower annually, and now and then ripen fruits. House, soil, and conditions generally ought to be the same as for forced Peaches.

Bullock's Heart has long smooth leaves, flowers two or three together, and sub-globose fruit with a rough areolate exterior. It is not worth growing except by the curious, but care must be taken that it is not taken in error for the Custard Apple, as it bears this name in the West Indies.

A. cherimolia (the Cherimoya) has small ovate fruits, which are eaten by Creoles and are good enough to find favour with some Europeans. Fruits produced a year or two ago in the Palm house at Kew were delicious in flavour.

A. muricata (the Sour-sop) has large green prickly fruit of medicinal value only.

PERSIMMONS OR DATE PLUMS.

Diospyros Kaki, the Persimmon or Date-Plum, an Eastern tree, which for centuries has been cultivated in China and Japan for its fruits. It is scarcely known in English gardens, although it has been cultivated for many years in Southern Europe. It forms a bushy tree, very similar to the Apple, and is deciduous; the leaves are oblong, rather leathery, and about 5 inches long; they assume brilliant colours in autumn. The flowers (female) are green, an inch in diameter, and are borne singly in the axils of the leaves. The fruit ripens in late autumn, and remains long on the tree after the leaves have fallen. They vary in size and flavour almost as much as Apples; in colour they are usually bright scarlet.

The male and female flowers are borne on separate plants, and the varieties are propagated by grafting. Most of, if not all, the cultivated plants we have are females. The ovaries swell to full size without having been fertilised, but the fruits are seedless. Fruits matured in a sunny greenhouse at Kew were as large as a Ribston Pippin Apple, and when ripe were as red, soft, and juicy as a ripe Tomato.

It would appear that the conditions most suitable for the Persimmon are what we term sub-tropical. It is not likely to be hardy anywhere in England, except in the warmer parts, although fruits have been ripened on a plant grown against a wall in Canon Ellacombe's garden at Bitton. So far as Kew experiments have gone the conditions most congenial to this plant are those of the Agave house. Here it is planted out in a border of loamy soil in a

position where it gets plenty of summer sunshine and air, whilst in winter the atmosphere is dry and the temperature never below 50°. The pruning of this plant is identical with that recommended for Peaches. In Japan the trees are never pruned with a knife, the belief being that iron causes injury to the branches; they are therefore thinned by breaking with the hand. The soil most suitable for the Persimmon is a gravelly clay loam, and a top dressing of manure should be given annually, say in March. Night soil is used in Japan for this purpose.

Professor Sargent, in his "Forest Flora of Japan" (1893), says:—"The Persimmon is planted everywhere in the neighbourhood of houses, which, in the interior of the main island, are often embowered in small groves of this handsome tree. In shape it resembles a well-grown Apple tree, with a straight trunk, spreading branches which droop toward the extremities and form a compact round head. Trees 30 feet to 40 feet high are often seen,

"*Diospyros Kaki* is hardy in Peking, with a climate similar to that of New England, and fully as trying to plant-life: it fruits in southern Yezo, and decorates every garden in the elevated provinces of central Japan, where the winter climate is intensely cold. There appears, therefore, to be no reason why it should not flourish in New England, if plants of a northern race can be obtained; and, so far as climate is concerned, the tree, which, in the central mountain districts of Hondo, covers itself with fruit year after year, will certainly succeed in all our Alleghany region from Pennsylvania southward. In this country (United States) we have considered the Kaki a tender plant, unable to survive outside the region where the Orange flourishes. This is true of the southern varieties which have been brought to this country, and which may have originated in a milder climate than Southern Japan, for the Kaki is a plant of wide distribution, either natural or through cultivation in south-eastern Asia. But the northern Kaki,



CUSTARD APPLE (*ANONA MURICATA*). (Original 3½ inches high and 3¼ inches wide.)

and in the autumn when they are covered with fruit, and the leaves have turned to the colour of old Spanish red leather, they are exceedingly handsome.

"Perhaps there is no tree except the Orange, which as a fruit tree is as beautiful as the Kaki. In central and northern Japan the variety which produces large orange-coloured, ovate, thick-skinned fruit is the only one planted, and the cultivation of the red-fruited varieties with which we have become acquainted in this country is confined to the south. A hundred varieties of Kaki at least are now recognised and named by Japanese gardeners, but few of them are important commercially in any part of the country which we visited, and, except in Kyoto, where red Kakis appeared, the only form I saw exposed for sale was the orange-coloured variety, which, fresh and dried, is consumed in immense quantities by the Japanese, who eat it, as they do all their fruits, before it is ripe, and while it has the texture and consistency of a paving-stone (!)

the tree of Peking and the gardens of central Japan, has probably not yet been tried in this country. If it succeeds in the northern and middle states it will give us a handsome new fruit of good quality, easily and cheaply raised, of first-rate shipping quality when fresh, valuable when dried, and an ornamental tree of extraordinary interest and beauty."

The names of the varieties are Japanese. The following is a selection:—

Hachiya.—Produced at Hachiya, in the province of Mino. Fruit very large, oblong, pointed, a little flattened at the base; skin rich red, black at the end when quite ripe; flesh when bletted juicy, very rich, delicious in flavour.

Ko-tsuru.—Fruit small, oblong, pointed at the end, orange-yellow. It begins to ripen early in August, but is not quite ripe till September. Inferior in quality, yet is esteemed for earliness.

Kumosu-maru.—Fruit medium, skin yellowish-orange, black cobweb-like mark appearing



A GROUP OF DELPHINIUMS AT MILTON COURT, DORKING.

on the apex when quite ripe; fleshy, rich in flavour. Ripens from the middle to the end of November.

Shimo-maru.—Fruit roundish-oblong, somewhat four-sided. It loses its astringent property early in September and changes to a yellowish colour, ripening entirely after exposure to frost and changing to reddish-orange. Flesh juicy, crisp, and of excellent quality.

Tsuno-magari.—Fruit roundish, pointed, somewhat four-sided at the stem; skin light reddish yellow; seedless. It retains its astringency even when quite ripe.

Tsuru-no-ko.—Fruit medium, oblong, pointed, bright red with black marks on the apex when quite ripe; flesh dull red, spotted with purplish black dots, sweet, rich in flavour. Ripens in October. W. W.

(To be continued.)

TALL DELPHINIUMS.

In June and July the Delphiniums, or Larkspurs as these plants are popularly called, attract attention by their noble and stately bearing, and not less so by the infinite variety of blue shades in the flowers. They produce gorgeous effects when well massed or grouped in the garden. There are not many groups of hardy plants so unique and vigorous. And happily, too, while not a few of the best plants of the garden are reeking with some new overwhelming disease or fungoid attack, these bold and showy things are, so far as I know, quite free from any such attack.

In what way can the best effect be secured with these plants? The general answer is by grouping, but there are groups that are effective and others

just the reverse. Formerly, however, the idea with these tall plants was to relegate them one and all to the back row of the border in single file or line, ready as it were to do guard to the other occupants of the bed or border. There they stood in single line, their beauty lost by the distance separating the plants. Now the single line and the solitary plant, whether in these or in other things, receives but little attention from the gardener, and rightly so. And there is no reason why such finely flowered plants should not be planted where the good effect produced may be at once seen. I saw this well exemplified some years ago in the grounds of the Crystal Palace, where large oval beds, probably 12 feet or more long and 8 feet wide or thereabouts were filled with nothing but Larkspurs for the summer, and masses of Daffodils for spring, and these beds placed on the turf were within easy distance of the pathway, and the plants, that is, every spike, well staked out. In this way the plants had been trained from an early date, and of its wisdom under the circumstances there could be no doubt. Every spike was of the

exhibition standard, bold and impressive, and the fine heads of bloom above the ever-handsome leafage were good in the extreme. It was just the plant for the large and spacious position, and the beds of many shades spread over a large area of the turf at least showed that Larkspurs were admired and well grown by those in charge. In this instance not less than 3 feet separated the plants, and each bed being of one colour made the entire group an admirable one. But in the private garden, unless, indeed, it be on a large area, this way of planting would hardly find favour. A better way in such instances will be the free grouping near belts of shrubs, as, for example, any of the Laurel tribe, whether of the common or Portugal, and again where the plants may figure in the foreground of dark, sombre things, such as the common Yew, though not near enough to be interfered with by the many far-reaching hungry roots, or down a gentle slope whereon at slight distance shrubs or conifers appear, and with the grass lawn in front of all these, Larkspurs will be quite in keeping. In such a spot little or no staking should be done, or at least sufficient only to ensure the safety of the towering spikes of blossoms against rough winds and storms.

But there are many places in the garden where these plants will succeed perfectly. In the flower garden Delphiniums find a place, and, again, in large beds in separate colours such plants will make a rich display till past midsummer.

How can we best secure the finest display? Well, naturally the answer would be by generous treatment; yet a fine display may be obtained without necessarily having the finest spikes. In all cases, however, to obtain the best spikes, the soil must be deep and good and generously worked also. The finest spikes are obtained usually where generous treatment is practised on a deep and

somewhat retentive soil—that is to say, a good, rather heavy loam is better generally than a soil excessively light and sandy. The best spikes rarely come where a subsoil of chalk exists, and the nearer to the surface so much the worse.

In light or comparatively light soils, as may be found in this part of the Thames Valley, the Delphinium requires division after flowering two years in one spot. I have seen it stated somewhere in a contemporary that November is the best month for dividing and replanting these subjects, and the statement was made without qualification of any kind. As a matter of fact, I do not know a worse period than November when it is suggested in a general way. It may suit in the lightest of soils, but this is another matter. In cold and retentive soils the plants would lie dormant all the winter, and the losses may be great indeed, not so much of the entire root perhaps as of decay in the new crowns, which is almost as disastrous. My experience, after a score of years and having propagated and planted many thousands, is that the month of March is the best for the safety of the stock generally. At this time the new growth crowns push away from the rootstock. Such plants will go on and flower somewhat in the same year, but infinitely better a year later, which may be styled the first flowering. It is now too late to be breaking up the Delphiniums, for the growth is already a foot high; therefore, I will not dwell fully on this part of the subject, but defer it to a more seasonable time.

But it is still a good time; indeed, no better could be chosen for planting such as are established in pots. These young, often single, crowns may appear small at the outset, but in good soil the plants quickly develop. Before planting the soil should be trenched at least 2 feet deep, or, if I say that it is impossible to treat these things too well in the matter of soil and of manuring, I shall have placed the entire thing in a nutshell. To plant in shallow and poor soils means failure, and to plant thickly will also bring about the same result. Great assistance may be given now to the growing plants by a good dressing of manure being dug in rather deeply and not too close to the roots, and from this time onward to the flowering period there should be no neglect of water and liquid manure on all occasions when dryness at the root is expected. Few plants more quickly respond to such generous treatment, and where the plants have already stood a couple of seasons and flowered some such help is necessary to give the plants their usual vigour.

There are so many fine things in this group that one hesitates in making a selection, and indeed in some respects they appear to have reached well nigh perfection. In other directions openings have already appeared as the new breaks shown in recent years amply testify. As time goes on these will doubtless be much improved and perfected in their purity of tone, an item that brings one to the fact of seed raising and all its attendant interest. Of this, however, more anon.

Hampton Hill.

E. H. J.

RECENT PLANT PORTRAITS.

THE two concluding parts, eleven and twelve, of volume xvi. of *Lindenia* contain portraits of the following eight Orchids:—

Cattleya Clymene.—A most beautiful variety with pure white sepals and petals and a brilliant rosy purple lip with deeply undulated border and pure white edge.

Vanda Parishii.—A handsome species with yellow flowers deeply and evenly spotted with brown and a small rosy purple lip.

Renanthera matutina.—The first of this family figured in this work. It has large, much-branched pendulous racemes of narrow-petalled flowers, which are deep red when they first open and turn to orange-brown before they fade.

Cattleya memoria Bleveii.—This is a hybrid between *C. Aclandiae* and *C. granulosa*. It has green sepals and petals spotted with brown, a pure white centre, and large fan-shaped white lip veined with rosy purple and with an undulated edge.

Cypripedium Stephanii.—This is a very handsome hybrid showing some of the characteristics of

C. villosum, *C. insigne*, and *C. leeanum*. Its dorsal sepal has a pure white upper half, the lower portion being shaded with yellow and deeply veined and spotted with brown; the lateral sepals and slipper are yellow shaded with brown.

Cattleya labiata var. *perfecta*.—An exceedingly handsome variety, showing four large flowers of a brilliant shade of rosy purple with a deep purple lip. This fine hybrid is considered to be the finest form of *C. labiata* yet seen.

Oncidium varicosum var. *moortebeckiense*.—A most beautiful variety with gracefully arching spike of deep yellow flowers with a clearly marked centre of bright chocolate-brown.

Dendrobium Phalaenopsis (Fitz-Gerald) var. *Lindenianae*.—This is perhaps the most delicately beautiful member of the family to which it belongs. It produces a pendulous raceme of large pure white flowers with a lip gracefully veined and pencilled with violet. The throat and tube of the lip is of a delicate sulphur-yellow.

The second number of *Revue Horticole* for April gives a pretty group of three varieties of *Saint-paulia ionantha* or Violet of Usambara. The colours are pure white, reddish purple, and violet.

W. E. GUMBLETON.

BOOKS.

The Royal Gardens, Kew.*—This is a pleasant book about Kew. It would be difficult to write a book that was not pleasant about so beautiful a place, especially at this season, when the

Daffodils are rivers of bloom in grassy glades and the Bluebells make a blue carpet everywhere. The book, if such it may be called, consists of about thirty large photographic reproductions of some of the chief features of interest in the Royal Gardens, with brief notes by the director. It is certainly a delightful souvenir of the finest botanic gardens in the world, well got up in every way, and a charming present. It may be bought at the gates as well as from the publishers.

We reproduce one of the illustrations; it shows the Queen's cottage grounds in Bluebell time. Of course a photograph gives no idea whatever of the misty sea of blue in May in this sequestered retreat, kept sacred to bird and flower life.

These grounds, with the Queen's cottage, were opened to the public by direction of the late Queen Victoria, May 1, 1899. There is no more beautiful spot in the Royal Gardens at this time than these restful glades of flowers, and we hope the director will continue to safeguard it from the inroads of visitors; at present it is roped off, and wisely too.

Kew becomes more and more a resort for the thousands of toiling workers in the city, brought hither by tube and electric tram. No one grudges the visitors full enjoyment of the sylvan beauties of Kew, but there is reason in all things. To roam at will through these glades and shrubberies would be to disturb the birds and destroy the flowers.

* "The Royal Gardens, Kew." With notes by Sir W. Thiselton-Dyer, Director of Kew, and photographs by E. J. Wallis. Price 2s. 6d. London: Ethingam and Wilson.

THE FRUIT GARDEN.

VINES GROWN AS ANNUALS.

THOSE who require very early Grapes and do not wish to force a large quantity may with advantage plant small houses or pits with young rods, as this is the way to get very early Grapes with less expense and trouble than with a large house. Much the same results would follow pot culture as regards earliness, but after many years' trial, both with pots and young Vines planted out, I find those grown as annuals and only one crop taken from them are more satisfactory, the yield is larger both in berry and bunch, and there is less labour in feeding and watering. Requiring a good quantity of early Grapes, I usually have four small pits of young Vines. Two are fruiting, and the other two growing on for another season. The Vines being grown in narrow borders, the roots can be assisted more readily in the way of bottom-heat. This is an important point. Double the weight of fruit can be got from Vines planted out than from those in pots, and the labour is less. Even when pot Vines are grown it is necessary to give bottom-heat to get a good break.

With regard to the culture of Vines as annuals it has been practised at Syon for many years, but formerly a much larger border was given, and at times the Vines were cropped twice—that is, two years in succession—but we now believe there



BLUEBELL TIME IN THE QUEEN'S COTTAGE GROUNDS KEW.

is no advantage in keeping Vines a second season. I admit that fruit may be had earlier, but the bunches and berries are small and the crop poor compared to the first one. If the age of the plants be considered—and I use Vines a year old—they can scarcely be termed annuals, but the term is applied to the plant after being planted. Then they are only one year in their permanent quarters, and even with Vines grown as annuals there are two distinct ways of culture. One is to plant strong canes as soon as the Vines that have fruited are cleared out, and grow on rapidly. I cannot do this at Syon, as the new wood does not ripen sufficiently to force early, so that I adopt the plan of forcing hard one year, clearing out the Vines, say, at the end of May, and then growing crops of Melons to fill out the season. It will be seen, therefore, that our Vines are longer in making their growth than in more favoured localities where there is more sunlight.

The borders in which the Vines are grown average 2 feet deep and 2½ feet wide, and the best results are obtained in some old Pine pits. Here the original bed for plunging was 6 feet in width, 3 feet deep, and the portion not converted into the narrow Vine border is filled in October with fresh leaves and manure, the roots getting the moist bottom-heat they like. In other pits we have a slightly wider bed and bottom-heat underneath from hot-water pipes, but more moisture is required both when growing the Vines after planting and when in fruit. As the borders are shallow they require much moisture, the roots soon feeling the effects of drought. When planting make the borders as firm as possible by ramming well. Select the varieties Black Hamburgh and Foster's Seedling; the last named does not break so soon as the Hamburgh, but when the berries are set it soon makes up for lost time. No white Grape is equal to it for hard forcing. Many good Vine growers differ about the planting. Some advise planting out without disturbing the roots, but much depends upon the house and culture. If the eyes from the start are grown on freely and not allowed to become too much pot-bound, there is no need to shake out the roots again. If the Vines to gain time had been potted on and what is termed "forwarded," then they may be planted and well rammed round, but if cut-back Vines are planted, say, early in the year, and the Vines only just breaking, I advise spreading out the roots, making them as firm as possible. I have also planted out young Vines that had been grown from the start in boxes, merely destroying the boxes, and filling in round the roots after being placed in position. Whatever plan is adopted, get a strong, healthy plant and good roots, a well-ripened cane, and the wood ripened as early as possible. Much harder forcing may be practised than with older Vines needed for future crops, and a much heavier crop can be had from canes specially grown. Our Vine rods are from 6 feet to 8 feet long, and average eight bunches each.

G. WYTHES.

MANURING STRAWBERRIES.

THE Strawberry as grown in the open air requires well manuring. Some growers dress the beds with farmyard manure in autumn or winter, and such a dressing is doubtless of value, but how much more beneficial to the plant must be an application of manure given just as the plant is starting to make new growth? The roots are then waiting, as it were, to take up some kind of stimulant to assist in building up a strong plant that will at no distant date produce a wealth of flowers and fruit. To increase the vigour of the plants at this time is to ensure the production (if other conditions are favourable) of strong trusses of flowers, and the stronger these are the better are the chances of obtaining large and luscious fruit.

In the majority of gardens there is a tank to receive the drainings from stables or cow sheds, and as large quantities have not been used during the winter months it may well be applied (when diluted slightly) to the Strawberry beds at this time. To prevent the fruit from becoming soiled later in the season various materials are used for placing around the plants, but that now generally

made use of is rough stable litter from which the manure has been shaken. This is beneficial in another way than as a protection, for the ammonia remaining in the litter is washed down by spring showers, thus leaving the litter as clean and sweet as new straw by the time the fruits reach a good size. Where large quantities of weeds are annually apt to appear, this stable litter must not be put on too early, but the alleys between the rows of Strawberries should be run over two or three times with a Dutch hoe on sunny or windy days before putting on the litter, otherwise the weeds will push through and become a great nuisance, for the hoe could not then be used.

Stoneleigh.

H. T. MARTIN.

PLUM REINE CLAUDE VIOLETTE.

THIS Plum, though of small size, is one of the richest flavoured in cultivation, and should be grown in every garden. It may be grown either against an east or west wall—the latter for preference—and, being of rather weak growth, it should be mulched with short manure early in the summer and receive several good waterings with liquid manure. It crops enormously, and the fruit is produced in clusters. It is deep purple in colour and covered with a dense bloom, the flavour being exceedingly rich and sugary. If protected from birds it will hang on the tree a long time, and when slightly shrivelled forms a delicious sweetmeat. Young trees should not be cropped too heavily for a few years.

J. CRAWFORD.

CORRESPONDENCE.

(The Editors are not responsible for the opinions expressed by their correspondents.)

GRAFTING TREE PÆONIES.

[TO THE EDITOR OF "THE GARDEN."]

SIR;—The evil of grafting Tree Pæonies is one more instance of the abuse of this method of propagation. We see it on every hand as we pass amongst the hardy shrubs and other plants. Recently I was looking at a group of Genistas, all of which are grafted on the common Laburnum, and to keep this all too vigorous stock in check one has to cut the stock away annually, and even then the plants often succumb. Another instance is grafting that lovely shrub, *Prunus triloba*, on the Myrobalan or Mussel stock, which is sure to kill it in a few years. Still another mistake is grafting Lilac on the broad-leaved Privet, which is evergreen, while the Lilac is deciduous. One is antagonistic to the other, and it is impossible to keep the Privet in check do what one will. This persists in throwing up shoots in all directions.

For several years my employer has been anxious to get together a collection of Tree Pæonies, and some two years since we received a collection direct from Japan. They were a shabby lot to say the least, and I could see from the way they were worked and the abundance of vigorous roots of the common purple stock that they were not likely to be a success. As soon as they were unpacked they were carefully potted and placed in a cool, shady place. Growth soon commenced, and all went well for a time. The following spring the stock asserted itself in the most masterly way, and since then there has been constant war between knife and stock. But under such circumstances how can one reasonably look for any degree of success?

Why not layer Tree Pæonies? I have seen this done. They take a couple of years to form sufficient roots to be parted from the parent plant, but one has the satisfaction of knowing that one has the genuine article, as well as a much larger plant, which will soon become established. I have several plants grown from layers which are excellent in every way. Mr. Peter Barr mentions the great demand in Japan for these plants, and the limit of three buds per plant. The plants we received from Japan were all limited to two and three, none more than three, and each was worked in the most clumsy manner possible. They were worked too

high up, at least the mass of roots was far too bulky to admit of planting sufficiently deep to cover the union and thereby encourage roots from that point, although I think it somewhat doubtful whether roots would be produced directly from the plant above the union, as would be the case in many other plants so grafted. Of course I am aware that to obtain plants by layering we must first grow plants sufficiently large to layer from, and this is a tedious matter so far as this country is concerned. I have, however, no doubt that the Japanese have plants large enough for this purpose, and it would be far better for them to charge a little more per plant than to graft and sell them at 10d. and 1s. each and disappoint their customers, as is now the case.

THOMAS ARNOLD.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—I note on page 102 of THE GARDEN, February 15, that the Rev. Canon Ellacombe wishes to know something about the grafting of Tree Pæonies in Japan. The principal place where Pæonia arborea is raised and propagated in Japan is the village of Ikeda near Osaka. The usual mode of propagating there is that they graft upon the roots of a wild variety of Pæonia arborea, which bears a purplish pinkish tinted single flower. I say wild variety, which is perhaps not correct, for it does not grow wild, but is cultivated just for the purpose of grafting upon. The roots of this stock are very fleshy and somewhat over a foot long. The process of grafting is very simple, and is done during the months of September and October. In order to protect the graft against breakage and make it take more quickly the growers there stick a piece of Bamboo piping around the graft, which they fill with earth, and the Bamboo piping itself sticks in the earth, so it is perfectly firm. In February or March the grafts are generally well grown together and the Bamboo pipes removed, and the proper culture begins, consisting of manuring the plants and keeping them free from wild suckers and weeds.

ALFRED UNGER.

PRUNING OR NOT PRUNING FRUIT TREES.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—Evidently the deduction to be drawn from the correspondence and controversy in respect to the pruning or non-pruning of young Apple trees is that those who plant in "the bright freshness of morning," with a reasonable prospect of "years good store," or with an altruistic view to posterity, should prune and thus secure large trees and vast crops in the future, while others who suffer either from brevity of land tenure or the "disease Anno Domini," and who want immediate results, should leave the knife alone.

I am one of the latter. Some six years or so ago I planted a great many young trees, being curious to test a lot of the newer varieties. I let them alone and have had large and continuous crops from them ever since. Of course I feed them with the utmost liberality. With two exceptions they have grown but little, but I did not want them to grow. If they had done so they would have been less crowded. I wanted fruit, and I got it. The two kinds that have grown, I may say luxuriantly in spite of good crops, are Bismarck and Bramley's Seedling, both first-rate varieties, Bramley's keeping much the later.

I wish some one would tell us whether Newton Wonder—so much praised in a late number of THE GARDEN—succeeds in a cold damp climate. I am afraid of it, as I believe Cox's Orange Pippin is one of its parents, and its produce with me is small, stunted, and cracked. I have now put it against a wall and await the result with curiosity.

County Caran.

D. K.

CATERPILLARS AND PÆONIES.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—Mr. P. Barr's note (page 235) under this head is interesting to me. The *corpus delicti* which formed the subject of the inquisition of the scientific committee of the Royal Horticultural

Society on February 11 last, came from my garden. Mr. Wilks kindly sent me full information about him. He is, it seems, known to science as *Hepialus Humuli*, and is the larva of the moth usually called the ghost moth. The brute in question has a yellowish-white body with a brown head, and has some general likeness to the larva of the cockchafer, which appears to have the same tastes in the matter of food, for Mr. Wilks tells me that this latter grub has done for his Peonies what *Hepialus Humuli* has done for mine. Mr. Wilks's experience (and, as I should infer, also Mr. Barr's) agrees with mine that these pests attack only choice species of Peony, such as the varieties of *P. albiflora* and *P. wittmanniana*, which I almost lost from the same cause. I have lately discovered that this same enemy has been destroying also some plants of *Campanula carpatica*, which I noticed last year were dwindling and dying out. I have since had occasion to dig them up, and it seems likely they have done the same for some strong clumps of the pale blue and white varieties of *C. turbinata*, which I see have entirely disappeared since last year. My garden is surrounded by Hop gardens, and *Hepialus Humuli*, as the name indicates, is the Hop grub, but, nevertheless, I cannot find that any of my friends and neighbours who are interested in Hop cultivation recognise it as an enemy.

J. CARRINGTON LEY.

THE WISTARIA.

WISTARIA time is approaching, and with me one of the most pleasant seasons of the year. A few noble examples may be seen in the suburbs of London, especially at Kew, where the trees must be a great age, while quite a fine plant is in the Royal Gardens, Kew, also. What may be achieved with this plant if some attention to its needs were forthcoming is not clear, for most of the Wistarias we see from time to time shift for themselves, and by the position they occupy must have large numbers of their roots in dusty, dry soil. In former days it was always the custom to plant this fine climber at the base of the dwelling-house wall, but now, with a fuller knowledge of its robust growth, its widely extending branches, and equally its wide-rooting capacity, other positions may with advantage be secured for it. One example may be seen at Kew, where a fine plant covers a huge cage-like structure. Another good way would be to plant it to run over pergolas, and with Clematis to succeed the Wistaria, the effect would be distinctly good.

R. B. A.

CHRYSANTHEMUMS.

PLANTING OUT EARLY-FLOWERING CHRYSANTHEMUMS.

ALTHOUGH the plants are somewhat later than usual in becoming established and fit for planting outdoors there is plenty of time for the work. The young plants in 3-inch pots are sturdy, the earliest batch being in 4½-inch pots, and now well hardened off. The latter will be planted in their flowering quarters at once, and be given the warmer and more protected quarter of the garden. A late April planting in a warm and less open position answers admirably when an early batch of plants can be got for the purpose. By these means plants of splendid proportion may be developed by the flowering period, and their season of flowering may also be somewhat extended.

In cold and exposed situations, and with such positions one is familiar, there is always a tendency to hurry forward the planting. Under such circumstances defer planting until the third week in May. As a rule, by this time the weather is very genial, and the risk of damage by late frosts remote. Of course the varieties differ considerably

in vigour and hardiness. As an instance we may take the plants of the Mme. Marie Masse group. Here we have typical representatives of what a border Chrysanthemum should be. They are robust, branching in growth, rarely, if ever, exceed a height of 3 feet, and remarkably profuse. Of all the early varieties left in the open border during the winter the plants of Mme. Marie Masse and its progeny appear to suffer little or no inconvenience from the frosts and sodden condition of the soil. Numerous instances could be given as a contrast to that of the variety already described. What one could successfully do with plants of the excellent sorts above-mentioned it would be most unwise to do with others. Take Mychett White, as an instance. This is one of the most beautiful of the early-flowering white Japanese varieties, but must not have the same treatment as Mme. Marie Masse and other strong growers. For this reason, therefore, the planting outdoors of the weaker growing varieties may well be deferred until May. Exception may be taken to this advice, but from personal experience in a garden in a cold and exposed situation I am satisfied it is the better course to follow.

The stronger growing varieties, especially those of branching growth, should be planted 3 feet apart either way, as long before the flowering period has arrived most of the spaces intervening should be well filled up.

The Japanese varieties, as a rule, are represented by larger plants than the Pompon. A space between plants of the latter type of the Chrysanthemum, of some 2½ feet, should be allowed in each instance, this satisfying the needs, with a few exceptions, of the whole of the catalogued varieties. The exceptions are Mrs. Cullingford, Miss Davis (sport from the former), Lyon, Alice Butcher (sport from the last-named), Yellow Gem, and Precocité. Plant firmly and in exposed situations, giving the young plants a small Hazel stake for support.

Some writers advocate liberal dressing of the ground with manure at the time of deeply tilling it, but in the experience of many growers, and this I can heartily support, such treatment has a tendency to develop coarse growth. A moderate dressing of well-decayed manure answers well.

D. B. CRANE.

KEW NOTES.

PEACH BLOSSOM.

WHEN botanists, under the generic name of *Prunus*, include not only Plums but such distinct trees as Almonds, Peaches, Apricots, and Cherries, and even the evergreen Laurels as well, gardeners may reasonably be absolved from employing the all-embracing euphony of Peach blossom for the flowers of the same tribe, and

Peach blossom—literal and figurative—has been, is now, and will be for some while to come very much in evidence at Kew. One of the earliest of the Peaches, the Chinese *Prunus davidiana*, began to open its flowers in January, but owing to the check of severe weather was not fully in bloom till towards the middle of February. It is valuable in both its forms of pink and white, not only for its early flowering but also for this good quality of keeping itself in reserve for better times, even when far advanced, if the season proves itself unfavourable. In March came the rosy flush of Almond blossom—as much the harbinger of spring in suburban districts as the Violet and the Primrose of country lanes—and so lavish is the Almond of its frail flowers that the very stems sometimes



WISTARIA SINENSIS.

cannot forbear to put forth clusters of pink. But Almond blossom passed quickly away, and in the middle of April the true flowering Peaches took their place. A wall or orchard house when the fruit trees are in flower is always a charming sight, but the flowering varieties, double as well as single, which are not expected to fruit, have greater decorative value, and the standard or bush form in which most of them are grown at Kew heightens their general effect. A large bed of grouped varieties coming into flower is beautiful just now in their mingled shades of brilliant colour, ranging from pink to carmine-red. A form named *magnifica* is peculiarly bright and may be found planted singly in many other positions. Doubtless these flowering Peaches may be delicate enough to require a certain amount of shelter, but

it is well that they should be recalled to the minds of any who are making out lists of desirable trees for planting in shrubberies or detached groups.

Apricots are represented by more than one species. *P. Mumé* is a handsome early-flowering kind which comes from Japan, where it has been taken in hand by the hybridists, and has broken into a number of varieties, some of which are a good deal better than others. It is also one of the trees successfully subjected to dwarfing treatment by the Japanese, with whom it is in high favour for temple and domestic decoration. With us *P. Mumé* is invaluable with other early species of *Prunus* for the conservatory, as the mere shelter of glass suffices to bring them into flower some weeks before those that are planted out of doors, while they last in perfection, if protected, for a much longer time. Of all the Apricot section, however, *P. triloba* is by far the most noteworthy. A long-established specimen against a south wall in the gardens is a picture not easy to put into words. A Persian might be excused for spreading his carpet before it and finding a fit ideal for reverent homage. One wonders why such delightful and easily grown plants are not more often seen in our gardens. A wall is not essential to the well-doing of this fine species, for it is quite hardy, but it conduces probably to the better ripening of the wood, for it is not always covered with so queenly a mantle of rose-pink when grown in bush form.

Plums, taken as a whole, are scarcely so ornamental in flower as their congeners. *P. Pissardi* with dark purple foliage is well known and has been largely planted of late years. Bushes of the typical *P. cerasifolia* are very pretty with their fresh, bronze-coloured leaves, with here and there a white flower. The double form of *P. spinosa*—our common Blackthorn—with bare branches completely covered with small flat snow-white flowers, almost Daisy-like in effect, is surprisingly good. It may confidently be recommended for positions where its low growth and profuse flowering at this season would make it valuable.

When Peach blossom proper is over, Cherries, which are full of bud, will take their turn, and we may safely reckon that during the first five months of the year our gardens may be made the brighter by one or other of this beautiful tribe of *Prunus*.

Though belonging to a different division of the same order of Rosaceæ *Amelanchier canadensis* must not be allowed to pass unnoticed. It is a small tree, not more than 8 feet or 10 feet in height, with somewhat weeping branches, the graceful curves of which are veiled, not hidden, by crowds of small white flowers in drooping racemes, which are produced before the leaves. Nothing can be more beautiful in its way than the silvery green of the countless budding sprays, as they gradually swell into flowering size, until at length the whole is enveloped in a cloud of white blossom. In autumn the leaves become brightly tinted, and from the hanging bunches of purplish fruit the tree goes by the familiar name of Grape Pear, so that it is altogether a desirable addition to any good garden.

Kew, with its myriads of Daffodils in the grass, its formal beds of early bulbs in all their bright colours, and its Peach blossom and Magnolia flowers overhead, gives just now a notable example of spring gardening.

GARDENING OF THE WEEK.

INDOOR GARDEN.

THE ROSE HOUSE.

PERMANENT climbing Roses that have flowered should have all superfluous and weak growths removed, the vigorous flowering shoots slightly shortened, and the best growth for future flowering neatly tied in. Afford liberal applications of liquid manure and freely syringe the foliage in bright weather. Tea and Hybrid Tea-scented Roses in pots that are out of flower may have their flowering shoots shortened, and after

being carefully hardened off plunge the plants in a sheltered position out of doors in a bed of ashes. Afford them a little protection at night until the foliage becomes hardened. Hybrid Perpetual varieties after flowering must not be pruned, but placed out of doors in a sunny position until autumn. Water, syringe, and keep clean, for the ripening of the wood for next season's flowering is one of the chief points in the successful cultivation of Roses under glass.

BEGONIA GLOIRE DE LORRAINE

and other fibrous-rooted Begonias, as becomes necessary, should be transferred into 3-inch pots and given a position near the glass in a house or pit having a temperature of about 65°. Syringe them and shade from strong sunshine, removing all flowers as soon as they appear. *Begonia Gloire de Lorraine* and its varieties, as far as my experience goes, should be grown in a warm temperature until they come into flower, when they may be gradually inured to cooler conditions. We are now inserting our main batch of cuttings. In about three weeks these cuttings will have rooted and should be placed on a stage covered with ashes in a low span-roofed house. Here they are kept until the flowering period. By shutting up early very little fire-heat will be wanted to keep up the required temperature. There is no better safeguard against an attack of thrips than by keeping the plants growing vigorously.

GARDENIAS.

Cuttings that were put in as advised should now be growing, and may be pinched occasionally and kept near the glass in a warm, moist atmosphere. Liberal syringings will be necessary until growth is completed. Cuttings may still be inserted should a batch of successional plants be required.

BOUVARDIAS.

Rooted cuttings may be potted in a mixture of turfy loam, leaf soil, and sand. Place the plants in a frame having a temperature of about 60°, syringing them daily. Attention should be paid to pinching the young shoots; ventilate freely in favourable weather.

FERNS.

Stove Ferns are now growing well and should have plenty of water at the roots, and also atmospheric moisture. *Adiantums*, *Gymnogrammas*, or other species with powdery or hairy fronds should not be syringed. Too much heat and shade is hurtful to many Ferns.

JOHN FLEMING.

Wexham Park Gardens, Slough.

THE KITCHEN GARDEN.

FRENCH BEANS.

LITTLE difficulty will be found now in keeping up a good supply of this much-appreciated vegetable where a reasonable amount of glass is at command. Very little fire-heat will be required, except during cold nights. Thorough syringings of the foliage should be given twice daily to ward off attacks of red spider; close the ventilators early in the afternoon, and apply manure water to the roots at every other watering. Excellent crops can be assured by planting out young plants in cold frames and admitting abundance of air whenever the weather will allow, and later on, when it is safe to do so, remove the lights entirely. Thus treated an unbroken supply will be had. For planting in the open the first plants should be raised under glass in quite cold structures, either in boxes or small pots, and transplant in a warm sheltered part of the garden any time after the 20th of the month. These will commence to bear much more quickly than if sown in the open ground. It may be necessary to give slight protection when frost is likely to occur, but the little trouble incurred will be amply repaid where choice early vegetables are appreciated. *Ne Plus Ultra* and *Canadian Wonder* are two of the best kinds.

CUCUMBERS IN PITS AND FRAMES.

Plants in full bearing will need frequent mulching and thinning of the growths to induce them to make clean, vigorous shoots, and do not over-crop. Everything will depend on the care and attention

the plants receive in their younger stages as to the length of time they will continue to yield good crops of fruit. Black fly frequently attacks them, and unless means are taken to completely eradicate this pest it will cause serious injury. Fortunately the XL All Vaporiser, when judiciously used, is a safe and certain remedy, and to be on the safe side it is well to fumigate occasionally, whether any insect life be observed or not. Ventilate in good time in the morning, but syringe and shut up the house early in the afternoon. Another sowing of seed should be made in small pots in heat. The seedlings can be grown successfully in quite cold frames or pits for late summer use.

RIDGE CUCUMBERS

may now be planted under hand-lights on slight hot-beds, and, when it is quite safe to do so, the lights may be entirely removed and the plants will come at once into full bearing.

TOMATOES.

Plants bearing fruit will need a good deal of assistance from stimulants. Every other watering will be none too often to apply farmyard manure water, properly diluted, and occasionally slight doses of some approved patent manure. Surface-dress the plants with good fibrous loam, half rotten cow manure, and a little bone-meal. Pot on or plant out for succession under glass. Those which are intended for fruiting in the open should be potted on and induced to make good strong sturdy plants. Small late plants cannot be depended upon and are practically worthless.

The Mushroom house should be kept as cool as possible, frequently damping down the walls, paths, and beds. Now is a capital time to make up beds in the open, choosing a position under a north wall if possible. These will often produce abundance of good Mushrooms during the hot days of summer when they are most difficult to obtain.

E. BECKETT.

Aldenham House Gardens, Elstree, Herts.

THE FRUIT GARDEN.

STRAWBERRIES.

KEEP up a good supply of ripe fruit from pot plants until the most advanced outside crops are ripe, and to do this successfully is comparatively easy. Plants for this purpose should have been prepared by being top-dressed with fresh compost when they commenced to grow and by keeping the soil uniformly moist by supplying diluted liquid manure. Too frequently late plants are left to take care of themselves, as it were, until they are wanted under glass, when they are found to have suffered considerably from neglect whilst making their early growth, which no after treatment can wholly rectify. Late plants, especially when placed upon shelves near the glass, should have turves placed beneath the pots, as this not only lessens watering, but the turves, by being saturated with liquid manure, become a desirable rooting medium. The condition of the weather at this season usually admits of free ventilation, which both assists fertilisation of the flowers and improves the flavour and colour of the fruit.

FIGS.

Trees planted in a restricted rooting space, and that have been resting in order to provide the latest crops of fruit (here *Negro Largo* is depended upon for this purpose) should have their shoots shortened to two basal buds. Strong growths should be encouraged by syringing and preserving a moist and moderately humid atmosphere; they should be disbudded and thinned in a sufficient degree to permit the sun and air to properly mature both wood and fruit. As the growths extend carefully secure them to the trellis, and stop them at intervals from the fifth to the eighth leaf. By stopping in this manner, and thinning the fruit so that some of the earliest and latest are selected for the crop, the supply will be accordingly lengthened.

POT TREES

that have furnished a supply of early fruit may be allowed to carry a light second crop, but it is better to sacrifice this and induce the trees to thoroughly mature their wood.

THE EARLY PEACH HOUSE.

When the earliest fruits commence to ripen the temperature of the house can with advantage be slightly lowered, more air being admitted by day, and a little at night when possible. This treatment, accompanied by a cessation of syringing, will tend to improve the flavour of the fruit and prolong its ripening season. The practice of suspending nets to catch fruits that fall is not necessary if the fruit is carefully gathered daily. It should not be left upon the trees to become sufficiently ripe to drop, for when this is done its fullest flavour has passed before it is sent to table; by gathering early and giving it a few days to ripen in the fruit room, or in packing cases during transit, its best flavour is developed, and the fruit is not so liable to be damaged. After the trees are cleared of fruit freely ventilate the structure and remove all useless wood, such as that which has carried the fruit, for which young shoots to replace it have been laid in. T. COOMBER.

The Hendre Gardens, Monmouth.

THE FLOWER GARDEN.

A BORDER OF FRAGRANT FLOWERS.

THE odours of flowers are welcome in the cool of the late evening when the beauty of the ordinary border cannot be seen. Here at St. Fagans there is a long border beside a terrace walk that is more frequented in the evening than any other period of the day, and it has been my wont to arrange it simply to please and attract at that particular hour. For this purpose I use principally sweet-scented flowers and flowers that open early in the evening and are quite poor in effect during the day, when, in fact, the border is somewhat unsightly. I try as much as possible to keep the different odours from clashing by using occasionally non-odorous plants, and separating the more delicate from the heavier fragrant flowers. I believe one could keep on perfecting and improving this arrangement every year until a high degree of success is obtained.

For this kind of border the little night-scented Stock (*Mathiola bicornis*) is pre-eminently one of the best of flowers, and should be sown in broad masses. In the daytime it has a detracting dead appearance, but in the evening it seems to imbibe new life, and with its pretty faint-coloured pink and lilac flowers and grey foliage looks quite pretty, while it diffuses the air around with the sweetest perfume that it is almost possible to imagine.

The sweet-scented Stock is an annual and easy of culture, and can be sown at any time now.

The Mignonette is another hardy annual admirably adapted for this border, and if properly thinned out when the seedlings are up to allow plenty of space to develop makes a good display as well as giving off a delicious fragrance.

Sweet Alyssum, Evening Primrose, Sweet Peas, Sweet Sultans, and some other hardy annuals can be used, while the Tobacco Plant is invaluable. This latter should be sown in boxes in heat, and when the seedlings are large enough pricked off into fresh boxes, giving ample room to grow, hardened off, and then planted out with sufficient room all round to attain their natural size untrammelled. I usually sow quite a month earlier than this, but it is not by any means too late to sow now. Marvel of Peru, though not scented, certainly should find a place in this border, as it is a handsome plant and its flowers nearly an inch and a half across, of numerous shades of colour, open in the evening. It is really a perennial, but may be treated as an annual, and if sown now in boxes in heat and then potted singly into pots of good rich soil when large enough they should by the middle of June be ready to plant out.

There are different kinds of Lilies suitable, and as bushes the Myrtles, Rosemary, Lavender, and Sweet Briars are indispensable.

On supports of branches or walls the Clematis Flammula is delightful in the evening, both on account of its shower of white flowers and its wonderful fragrance, but it requires to be established a year or two before it is effective. Honeysuckle and Jasmine, too, have their place here.

Castle Gardens, St. Fagans. H. A. PETTIGREW.

THE STRAWBERRY.

(Continued from page 252.)

It is not unusual for a plantation of Strawberries in flower to suffer considerable damage from late frosts in the spring if they are not protected in some way. From flowers whose pistils are damaged it is of course impossible to obtain good fruits. Where a large acreage is devoted to Strawberry culture the most satisfactory method of protecting the plants is that already mentioned, to loosely shake over them the straw that is used to keep them clean. Where the extent of ground, however, is not so great more effective measures can conveniently be taken. Some growers erect a permanent framework of wood, and this is an excellent plan where it can be carried out, for it serves to support a covering of netting to protect the flowers when they are open, and also to shield the fruits from the ravages of birds. A good deal of protection is provided by a covering of netting, although one might perhaps not think so; this, if the plants are covered with straw also, should form sufficient protection. The wood supports may be from 4 feet to 6 feet high, so as to allow a man to move about underneath the netting with a certain amount of convenience.

An especially valuable crop of Strawberries is that obtained from a warm south border at the foot of a wall, and particular care may therefore be given to make these plants secure against damage from frost. One method, absolutely frost proof and therefore to be recommended because it has the great merit of being effectual, is worthy of being well done. And it is as simple as it is effectual. Wooden stakes are driven into the ground, both along the top and along the bottom of the border, at a distance from each other of 6 feet. The stakes must be so high that when driven in the border the portion above ground is about 18 inches high. Connect each stake and also the stakes at the foot and base of the border by means of strong pieces of wood, nailing them on firmly. This structure is then ready to receive the canvas blinds. One end of these should be fastened to the framework at the top of the border and a wooden roller fixed to the other end so as to facilitate its rolling and unrolling. It is not, of course, necessary to have the canvas fixed to the wooden roller, but unless this is done it is somewhat inconvenient to roll up. It is a simple matter to let down the canvas over the framework at night and to roll it up in the morning. Although the expenditure of a certain amount of trouble in erecting this structure is necessary, this should not prevent its being done, for to go to the expense and labour of cultivating these early plants and then to neglect them at the most critical period of their existence is obviously unprofitable.

Unless the runners are required for increasing the stock of Strawberry plants (and it is far better to obtain runners from plants that are not allowed to fruit) they should be removed when they appear during the summer, so that the full energies of the plant may be devoted to the production and development of the fruit.

When the fruits commence to increase in size they should be assisted by applications of liquid farmyard manure, and if the weather is exceptionally dry they ought to be previously well watered with clear water. It is surprising how great is the benefit Strawberries derive from such a manual application during the time they are swelling. Its use, however, must be discontinued when the fruits commence to colour.

GATHERING AND PACKING THE FRUIT.

There is perhaps no hardy fruit so liable to be bruised and disfigured by careless handling as the Strawberry. In gathering the fruits great care should be taken not to touch them; they must be removed from the plants to the baskets by means of their stalks. The most convenient articles to place the Strawberries in as one gathers them are punnets. They may be had in various sizes, and those about 9 inches or 10 inches in diameter are perhaps the most serviceable. Place a Cabbage leaf at the bottom of the punnet before placing the fruits therein, this keeps them cool and prevents their

being bruised. To travel any considerable distance by road or rail Strawberries need to be carefully and properly packed, and they should not be wet when required for this purpose. Wet fruits are much more easily bruised than dry ones, and in packing Strawberries one cannot be too careful in every detail. A. P. H.

NURSERY GARDENS.

NOTES FROM THE HASSOCKS NURSERIES.

ONE of the most interesting nurseries in the kingdom to visit is the Hassocks Nurseries, because here can be seen plants rarely to be met with elsewhere. The firm of Messrs. Balchin and Sons have two nurseries—one the above; another at Hove, which adjoins Brighton; and then in the Western Road, which is the central dépôt of the business, and the leading one in Brighton, are the offices, seed shop, and a palatial conservatory for show and decorative purposes.

At the Hassocks Nursery, where there is a considerable quantity of glass, many plants—flowering and foliaged—are grown both for sale in the conservatory at Brighton and for supplying cut bloom, and, in addition, many hard-wooded New Holland and other plants with which to supply orders and the trade. It is here one sees certain subjects not generally met with in nurseries, grown to a large extent and with remarkable skill: and instead of the half-starved examples sometimes seen, vigorous, healthy, and finely-flowered plants meet the eye.

Diosma ericoides, a South African Heath-like shrub, which produces small white blossoms, is elegant in growth; the foliage has a strong, penetrating, yet agreeable fragrance when handled. *D. capitata* is of shrubby growth, throwing a kind of truss of small pink blossoms at the points of the shoots. Both species are rarely seen; the latter especially is too good to be quite neglected. *Darwinia* (*Hedaroma*) *tulipifera*, but now known as *macrostegia*, and *D. fuchsoides* (?), with its deep red bell-shaped involucres—plants which some years ago were grown as exhibition specimens, but are now rarely seen at flower shows—were to be seen in 4½-inch pots, the specimens, two years old, and both blooming in fine character; and then the plants of Barnes' deep coloured variety of *Phenocoma prolifera*, a Cape of Good Hope everlasting, a subject said to be difficult to grow, but here to be seen as three year old plants in 4½-inch pots, averaging 2½ feet in height, with foliage quite down to the pot, and having from six to eight flowering stems, soon to be alive with blossoms. There are many of them, and it grows freely enough at Hassocks, because its culture is thoroughly understood. Some of the readers of THE GARDEN are familiar with the very fine examples of this plant that Mr. James Cypher, of Cheltenham, is in the habit of exhibiting during the summer months, specimens nearly or quite 5 feet through, and crowned with rose-coloured inflorescences. It is propagated to a considerable extent by Messrs. Balchin and Sons.

The deepest coloured of the Cape of Good Hope *Aphelexis* is grown here under the name of *Barnesi*. It is probably a selected form of *humilis purpurea*, and is very striking, and yet the type *humilis*, growing by its side, appeared to be of dwarfier and more compact growth, the blossoms, of course, much paler. At our large provincial flower shows fine examples of these Cape everlastings are staged, but it is rare to meet with plants in private establishments.

Two years or so ago Messrs. Veitch and Sons exhibited at one of the meetings of the Royal Horticultural Society *Erica propendens*, a very attractive species, with bell-shaped flowers of a pleasing pink tint. Though introduced as far back as 1800 it had been almost entirely lost sight of until rescued from oblivion by Messrs. Veitch and Sons, and it came with all the novelty of a new

plant. The reason assigned for its having practically dropped out of cultivation was that it was difficult to grow. The visitor to the Hassocks Nurseries, who can see some hundreds of free flowering specimens, would not think so from its appearance. It is found to increase readily from cuttings, and here could be seen plants 15 inches to 18 inches in height in vigorous healthy growth and foliage, full of spikes of blossom. It should become a highly popular market plant. *Acacia armata* and *A. diffusa* are largely grown, the latter a highly ornamental decorative plant: small ones were laden with blossom.

One must go to Hassocks to see the regal *Leschenaultia biloba major* in all the brilliance of its rich blue blossoms. Tiny plants 4 inches high, from cuttings, were seen bearing a flower or two at the point. These points are pinched out, and then the plant breaks into growth and forms the foundation of a good specimen; but it takes three or four years before a plant gets into anything like size; at Hassocks its management is perfectly understood and it thrives.

Boronias serrulata, *heterophylla*, the later

other. This is probably the vigorous growing evergreen form at Hassocks.

Echeveria retusa is here in splendid colour, the flowers apparently larger than are usually seen. They last a long time in a cut state. It is difficult to find in the whole nursery a plant free of bloom than the Australian *Tetratheca ericoides*; or, according to Mr. Nicholson, *T. pilosa*, of Heath-like growth: the specimens are laden with thin mauve-purple blossoms. It is a free growing and free blooming subject.

Such are some of the treasures at the Hassocks nurseries; but they by no means exhaust the contents of the many plant houses.

R. DEAN.

HARDY FRUITS IN SEASON.

APPLE WINTER QUEENING.

THE Apple season is coming to an end, and the varieties now to be seen are not numerous. Yet the condition of an Apple at this time of the year is proof of its value as a keeper, and if it has also

it keeps sound well into May when given cool storage. It may be said we have newer kinds of great merit, but I do not know one that keeps better. The fruits are a fair size, conical, and bright crimson on the sunny side, yellowish green on the reverse, flesh firm, crisp, and very juicy. Even now it has a brisk acid flavour. At Alnwick Castle this is one of our best late Apples, and it crops even when others fail.

G. WYTHES.

THE SEVEN SISTERS ROSE.

THIS old-fashioned Rose, the Seven Sisters, is here shown growing on an archway over the drive in the garden of Mr. C. M. Betterton, Overseal, Ashby-de-la-Zouch. It is about 12 feet high, and at the time the photograph was taken was a mass of bloom, not only on the arch but also over the shrubs which grow near to it.

OBITUARY.

MR. THOMAS KING.

FEW men were better known in horticultural circles in the West of England than Thomas King. As cultivator, exhibitor, and judge he had gained many honours in his lifetime. He was an able gardener, with a thorough knowledge of details. What he grew for exhibition was always of the best, and it was staged in an attractive manner. A keen, fully qualified, and thoroughly straightforward judge, he gained the confidence of exhibitors in a remarkable degree. He was a man of singularly high character and of the most genial disposition, and his death is sincerely regretted by all classes in the town of Devizes, where he spent the greater part of his life.

Born at Roundway, near Devizes, in 1835, he went into the gardens of Roundway Park in due course, and in time, by industry and application, qualified himself to take a leading position. His opportunity came at the end of 1860, when he was placed in charge of the gardens of Devizes Castle, at that time the residence of R. Valentine Leach, Esq. Mr. King in course of time thoroughly reorganised the gardens, new houses were built, and he at once entered upon a successful career as an exhibitor. He grew splendid specimens of Fuchsias, and on one occasion, at a large exhibition held by the Royal Horticultural Society at South Kensington, he won two first prizes of £10 each with Fuchsias, and also received a special medal for high culture. He grew and exhibited excellent Grapes, his Black Hamburg and Muscat of Alexandria being noted for their finish. He produced very fine Peaches and Nectarines, and held his own when competing with the productions from such noted places as Rood Ashton, &c. I never saw more highly finished Chasselas Musque Grapes than he used to exhibit at the Trowbridge and other shows. He had a method of culture which overcame the constitutional tendency of the berries to crack. When some years ago Mr. Leach offered the property for sale he made arrangements by which he took over the gardens on his own responsibility, finding an outlet for his produce in the neighbouring cities and towns. He then ceased to exhibit, but his services became much in request as a judge at Bath and other places. He also superintended the Chrysanthemum exhibition held annually in the Corn Exchange in connexion with a bazaar by the Devizes Benevolent Society, and he will be much missed at future shows. By his death I, in common with many others, lose an old and valued friend. Mr. King was a Fellow of the Royal Horticultural Society.

R. DEAN.

M. LOUIS ROWLAND.

M. ROWLAND, who for the past eighteen years was head gardener at the National School of Horticulture at Versailles, died recently. He was one of the best practical fruit growers of the day.



THE SEVEN SISTERS ROSE OVER DRIVE AND SHRUBS.

blooming elatior, with the fragrant *B. megastigma*, are largely grown also. They bloom abundantly. Two years ago a creamy sport appeared on *B. megastigma*, and this is in course of being fixed, and will eventually make a pleasing variety.

Grevillea alpina is a hard-wooded greenhouse plant not often seen. It is of compact, shrubby growth, and produces a number of small Pea-shaped red and yellow blossoms, and it remains a long time in bloom. *Posqueria longiflora* is a noble Ixora-like plant, and, though not yet in bloom, is laden with bold trusses. It is an evergreen stove subject. What can be more beautiful in the way of a variegated-leaved plant than *Saxifraga sarmentosa variegata* with its gay tricolored leaves? It appears to be a whimsical plant, for Mr. Richardson said it would succeed in one particular part of a certain house only. Here it was perfectly at home, as could be seen from dozens of vigorous plants.

Agapanthus umbellatus albus is here in vigorous evergreen form. Mr. Baines tells us in his book on "Stove and Greenhouse Plants" that there are two forms of the white African Lily, that known as *candidus* being much superior to the

a bright appearance it is sure to attract attention. Winter Queening is a case in point, for we have few better or more attractive Apples. It is not exacting, for it does well on cold, stiff soils, and if left on the tree as late as possible will keep well for a long time. The variety is usually classed as a cooking Apple, and indeed it is a capital baker, but at this season it is not to be despised for dessert. On the retentive soils in the Weald of Kent I have seen some splendid examples, and there the southern sunshine puts on brightness of colour on the fruit which never fails to tell in the market.

H.
APPLE NANCY JACKSON.

This useful late Apple is more grown in the northern part of the Kingdom than elsewhere; it is grown under different names. I saw this in only one collection at the great Apple congress at Chiswick in 1883, held by the Royal Horticultural Society, but it is only fair to state that the northern part of the country had much fewer exhibits than the south. It is a great favourite in the northern portion of Yorkshire on account of its free cropping and good cooking qualities, and though its season is supposed to be from December to March

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HYACINTH CULTURE IN THE BRITISH ISLES.

WE have received the following remarks about what should be an important industry in these isles from Mr. Beckett, Lord Aldenham's excellent gardener, and they should prove interesting to those who have the British horticultural trade at heart.

"During the past few weeks I have seen paragraphs in the daily press describing the new industry of British Hyacinth culture. These have been, as usual, more or less inaccurate. One of the young men trained at Aldenham House is engaged in the business of Hyacinth culture, and has kept me well informed of its progress by accounts of the trials of the various methods and specimens of the flowers produced. A short account of these methods will be of interest to those who wish to know about the successful production on our own shores of what has been considered the foreigners' monopoly.

"There are evidences in old garden books that Hyacinths have been propagated in England, as, in a guide by Thomas Mane, dated 1784, instructions are given as to the sowing of seeds; but the industry has certainly never been carried out in a business way until recently.

"The Dutch soil is sandy and impregnated with salt. Abundance of water exists, yet the land is never sour. Many years ago Narcissi were cultivated in England for the bulbs, and, later on, farmers have grown them as market flowers. Three or four years ago an article appeared in a magazine describing the Dutch methods of the propagation of the Hyacinth. A few were tried as an experiment at Terrington St. Clement's, Norfolk, and as they appeared to be successful several growers have planted. Mr. W. J. Belderson has provided me with the results of his trials, and as he was trained in gardening at Aldenham House I have taken a keen interest in the experiment. He has sent me blooms from English bulbs finer than any I have seen of the Dutch. Last year he exhibited a stand of hard, heavy, and large bulbs at our local show. The soil of the district has been recently, so to speak, reclaimed from the sea; it is sandy, saline, and very rich. Fine Potatoes are produced there; indeed, crops of all kinds appear to grow with ease, equal to the results that others toil for in vain. Even the grass is so rich that it is said sheep and cattle fatten on it better than on cake and corn in some places. The subsoil is of very fine sandy particles, slightly mixed with loam, and no stones exist. The Hyacinths are planted much deeper than is generally considered advisable, 5 inches or 6 inches being the depth. When

the bulbs are full grown and needed for propagating they are cut by having the base scooped out with a sharp knife. The mutilated bulbs are then laid to dry in boxes or on shelves where a current of air passes between them.

"Some Dutch growers make incisions across the bulbs instead of taking the bottom out. Any cut given to a Hyacinth bulb when at rest will cause a number of bulblets to form, varying in size from a pin's head to a good-sized Bean, according to the number produced, but certain varieties give better results if treated in particular ways. The power of reproduction in a Hyacinth bulb is remarkable. When the single bulb is destroyed by cutting it forms a number of bulblets to replace the old one. The bulbs are then planted and make little if any top growth the first year. They are lifted early in June and dried when the bulblets separate from the parent, the latter being nothing but a few dried flakes.

"These bulblets rarely flower the first year, but the second season flowers are obtained. The bulbs are planted, and a period of three to five years from the time of cutting is necessary before they are fit for the market. The spikes of flowers average 9 inches high.

"I feel sure there is a great future for the English Hyacinth, and one great recommendation to gardeners who force is the fact that the bulbs can be got two months earlier than the Dutch—which is a matter of great importance—giving a longer period for root action before the plants are forced."

IS KEW A PUBLIC PARK?

JUDGING from an appeal recently made to the Right Hon. A. Akers-Douglas, First Commissioner of Works, there is an impression that the Royal Gardens, Kew, are a public park for visitors to wander in without regard to the flowers or birds. This is surely a mistaken notion. Visitors have grumbled that the grounds surrounding the Queen's Cottage are not thrown open to the enjoyment of the British public. We have not the slightest wish to say one word against the toilers of London going in their thousands to stroll in the botanic gardens, but to regard them as a public park is absurd. The gardens are "botanical," a living herbarium, wherein is contained, as far as possible, examples of the plants, exotic and otherwise, of our own and other lands. The public have free access to almost every part of the many lovely acres, and because the Director in his wisdom rails off the sequestered grounds about the Queen's Cottage, now a veil of Bluebells and a sanctuary for rare birds, he is regarded as a despot, who

attempts to deprive the great British public of their just rights. It is possible to walk round this enclosure and enjoy the beautiful scene, but it is not possible, we are glad to say, for the too often thoughtless public to tramp over the Bluebells and disturb precious bird life. Acres adjoining are available, with seats in plenty; there is no hardship in keeping this retreat round the Queen's Cottage secluded. We hope the Director will fight against any proposal to spoil this picture, the only one remaining that visitors cannot trample under foot.

EDITORS' TABLE.

From Mrs. Edward Bayldon, in Devon, comes a beautiful gathering of

PRIMULA SIEBOLDI FROM THE OPEN AIR, in colourings of white, blush, lilac, purple, and magenta. Some of the blooms are nearly 2 inches across.

From Lady Chance comes a superb gathering of WALLFLOWERS

grown from Messrs. Sutton's seeds, doing credit alike to good cultivation and to the eminent firm that has done so much to improve so many garden flowers. There are flowers of lemon, orange, and the usual garden mahogany tints, and tender colourings of daintiest flesh colour and pink with rosy buds, and grand purples of velvet-like texture. The flowers are not only fine in colour, but are of large size and firm substance.

From Mrs. Champenowne come bunches of some of

THE RARER DOUBLE POLYANTHUSES, namely, Harlequin, crimson, with yellow centre; Marie Crousse (true), large flowers of a pleasant low-toned rosy colour; lilac Marie Crousse, a good flower of bright lilac colour; and Prince Silverwings, a half-double flower of a purple colour, splashed with white, with strong orange blotches at the base of the petals. A most interesting series.

NOTE ABOUT POLYANTHUSES.

Mrs. Champenowne writes of them thus: "You may like to see blooms of two double Polyanthuses which are very little known. Prince Silverwings, unfortunately, had the best blooms picked by mistake, and these are poor. It has a tendency to come single, but when it comes out as it should is a very handsome flower; it is a vigorous grower, throwing a very large truss of bloom. Harlequin sometimes comes a shade brighter in colour, but is also much admired. Can you tell me the origin of these two varieties? I do not think they are old. They came to me originally from a lady in Ireland, who did not know the name Harlequin. I send also a bloom of the real Marie Crousse double Primrose, as identified by Mr. Richard Dean, Messrs. Barr and Sons, and others. Why is it that a totally different Marie Crousse is now recognised as true Marie Crousse? I send you

this also. The old is a very late-blooming variety; my specimen is hardly out, and it is most rare. You will notice it is of a reddish crimson, spotted with white. The modern variety is pinkish lilac, and, as Marie Crousse is often spoken of as "Crousse's lilac," it seems to me the old variety might be renamed with advantage, or that they should be called red Marie Crousse and lilac Marie Crousse. The lilac variety is a fairly early bloomer, and the habit is different. I might mention that the red Marie Crousse came from Mr. Wilmott's nursery near Exmouth, who sold the stock to the managers of Northfield Gardens."

From the Hon. Emily Lawless comes a charming gathering of blooms from

SEEDLING NARCISSUS TRIANDRUS, showing how well this charming small Daffodil is willing to be acclimatised on the warm sands of the Surrey uplands. It is growing in grass and in a copse.

From Lady Acland, near Broadclyst, Devon, come flowers of

IRIS TINGITANA AND IRIS IBERICA, with the following remarks from the gardener, Mr. Coutts: "Iris tingitana has been here for five years and has never flowered before, and now we have only had a few flowers. It was planted at the bottom of a south wall, and has grown very strong. The plants have received no protection all the winter; another season I will protect from winter rains. I. iberica was planted for the first time last autumn, at the bottom of a south wall, in good loam and plenty of lime rubbish. It has had the protection of hand-lights during heavy rain and severe weather. I. susiana, also under the same treatment, has done very well. I. Gatesii has made good growth, but so far has not shown flower."

The flowering of Iris tingitana is extremely interesting, as it is a difficult species to flower in England. There is no need to protect I. iberica or any of the Oncocyclus group from winter rain. It is the moisture of late summer and early autumn that must be kept from them. The rule is to put lights over them in July and to remove them in October.

THE FLOWER GARDEN.

EARLY SINGLE TULIPS.

ONE of the leading features of the Midland Daffodil show at Birmingham is the class for six pots of early single Tulips, in which the competition is very keen and the varieties wonderfully well grown. The schedule of prizes requires that the pots in which the Tulips are grown shall not exceed 7 inches in diameter inside measurement, and that there be six and not more than seven bulbs in a pot. In the old days of the spring shows of the Royal Horticultural Society at South Kensington it was usual to limit the pots to 5 inches in diameter and to five bulbs in a pot. The larger sizes of pot, as at Birmingham, appears to secure the best results, as blooms of large size and high quality are the rule. There were five competitors, and all had good flowers. There was a fine struggle for the supremacy between Mr. R. C. Cartwright and Mr. Robert Sydenham, the former having rather larger and more developed blooms, the latter younger flowers and wanting a little in evenness.

Of self-coloured Tulips the finest are Vander Neer, dark violet, very fine form, and an indispensable exhibition variety; Proserpine, bright silken rose, a very fine variety for pot culture; White Pottebakker, creamy white, a stout flower of fine build; White Joost van Vondel, a long white variety with petals a trifle pointed, still a very fine variety; Snowflake, well named because so pure in the white, not so large as the preceding, still a flower of fine build and quality; Prince of Austria, bright orange-red, large, and of fine form; and M. Tresor, which appears to be one of the, if

not the, finest yellow in cultivation, being deep in tint and of very fine build.

Of tipped or edged Tulips there were Keizer Kroon, a flower probably a century old, scarlet-crimson, feathered with bright yellow, a splendid variety for pot culture or bedding. Duchess of Parma, crimson, with a slight feathering of gold, a most useful variety, but inferior to the foregoing; and Grace Darling, sometimes described as a fiery scarlet self. As shown at Birmingham the petals had a bright bronzy crimson base, flushed with orange on the petal edges in the form of an irregular margin.

Of flamed, striped, or flaked Tulips there are several beautiful forms, such as Pottebakker, white and gold, known at Birmingham for several years past under the name of Unique, but rechristened in the spring of 1901 Brunhilde. It received an award of merit under this name from the floral committee of the Royal Horticultural Society, in spite of a vigorous protest against the unnecessary creation of a synonym. This is a white Pottebakker, with a flame of pure yellow flashing up the centre of each petal towards the top. In the competition at Birmingham Mr. Cartwright's flowers of this variety had the flame much more developed than in the case of Mr. Sydenham's blooms. It should be grouped with the Pottebakkers, as there is always a tendency to revert to the white self form. Queen of the Netherlands, a beautiful variety, the ground white, flushed with a delicate soft pink, very chaste, large, and of fine shape; Fabiola, delicate rosy violet, flaked with white, very finely shown on this occasion, the flowers not only massive but handsomely marked; Spaendock, one of the most distinct varieties in cultivation, having a pale bronzy red base flaked and feathered with cream; and Van Vondel, deep rosy crimson, flushed with white, in size and build exactly like its white variety.

To the foregoing may be added, though of a rather lesser degree of quality, Isabella, pale rose, flushed with white, the petals rather pointed; Golden Lion, amber, flushed with deep orange; and Jenny, delicate rose, but shorter in the petals than some others. R. D.

POLYANTHUSES IN THE WEST.

WITHIN the past few days I have seen fine displays of those most beautiful of all spring flowers, border Polyanthuses, in the West of England. At those fine gardens, Bryanstone, Sherborne Castle, Forde Abbey, Cricket St. Thomas, and Streatham Hall, Exeter, one of the finest kept and most beautiful places in that locality, I have found these flowers in exceeding beauty. I may make a distinction, not only in numbers but in variety and excellence, in favour of Forde Abbey, Chard, where Mr. J. Crook grows these plants not only for garden decoration but also for purposes of improvement, hence he raises annually and plants out many hundreds of seedlings, always saving from the finest flowers borne on plants having good, compact, effective habits and finely formed flowers.

Here have I seen this season the very finest flowers and the greatest variety of colours I have found anywhere. Some of the whites, sulphurs, oranges, yellows, reds, roses, crimsons, and purples were superb, and show what can be done in the way of developing the beautiful qualities of Polyanthuses by constant selection when done with a true florist's knowledge of what are the requirements of those who grow them for garden purposes. That there is in the strain curious and quaint colours which it is true I can hardly admire; but, on the other hand, many persons, and ladies especially, whose colour tastes often differ from those of practical men, intensely like the buffs, browns, bronzes, terra-cottas, and other curious hues. These may be, and doubtless are, more effective in masses than as individual plants. I had experience many years ago at Bedford that quaint colours had hosts of admirers; but generally for garden purposes the most favoured colours are good pure whites, yellows, reds, and crimsons, and these are in great abundance. I spent a little time one morning during an all too brief visit at Forde Abbey in marking some plants

which I esteemed to be the very best, and these Mr. Crook promises to save seed from and call it Dean's Selection; but he has been so selecting for some years, and as evidence of his efforts in that direction, and also of keeping all colours as fully represented as possible, he showed me some fifteen packets of seed saved from diversely coloured flowers. Some day perhaps it may be possible to set these hues by isolating plants of each one; indeed, that is being done now partially in a small way, but to do so effectively a wide area is needed. Long imbued with the belief that there is for these hardy plants a great future, I have been more impressed with that belief since I have seen what Mr. Crook has done. To reach one's ideal it may perhaps require twenty years of hard and persistent selection, but the time should come when it may be possible to purchase seed strains of at least a dozen diverse colours of the finest form and the most perfect habits. With respect to general culture, whilst those who purchase seed for the securing of plants to give spring displays only usually sow early in the spring, I find Mr. Crook follows my old plan of sowing in the autumn, usually in August, in shallow pans or boxes, getting the seedlings dibbled up thinly later into other boxes or direct into cold frames, then lifting and planting them out where to bloom, in April, thus securing deep rooting and strong growth ere hot weather sets in. North and east borders are much used for this purpose, as the foliage is then less injured by insects than is the case when it is fully exposed to the sun. Plants so treated give great heads of bloom in the succeeding spring. I observed that in the grounds of Forde Abbey, where Primroses grow in immense numbers, there are many coloured ones practically wild. So also were there many at Sherborne Castle, but there especially were great numbers of pure white ones wild. These diversities I regard as due to the presence of coloured and white Polyanthuses in the gardens close by. A. D.

THE STRAWBERRY.

(Continued from page 295.)

SHALLOW boxes about 20 inches long and 15 inches wide, with four equal divisions, are very suitable for packing Strawberries in. In the bottom of the boxes place a layer of Vine leaves—preferably young ones and picked from an outdoor Vine, as then they are quite soft; it is an excellent plan to grow a few Vines out of doors for the use of the leaves alone; they are in the best condition for packing Strawberries when the latter are ripe—to provide a soft base. Then carefully take up by the stalk and lay each fruit separately in a Strawberry leaf in lines across the divisions of the box, filling one division before another is commenced. The stalks should first be removed from the Strawberry leaves, as they are very liable to bruise the fruits, or at least to derange them. Do not place the Strawberries flat in the box, but rather upon their sides; they travel better, because they can be fitted in more firmly and more can also be got in the box. Keep the largest and best fruits together and the inferior ones together also. The object of the packer should be to fill the boxes with fruits placed so closely that they cannot move, yet not so that they will be at all crushed. To do this well and quickly requires considerable practice. When the box is filled cover with a layer of Strawberry leaves, and over these again place a few Vine leaves. It should have been mentioned that great care is necessary not to have the fruits the least bit higher than the sides of the box, or they run a great risk of being crushed. Three boxes of the size and shape above mentioned may be securely tied together with cord, provided that the fruits in each one are efficiently covered with a layer of Strawberry leaves and another of Vine leaves. One lid only will be necessary—to cover the box that is uppermost. Securely fastened together, such a package will travel hundreds of miles without the fruit being any the worse for it.

TREATMENT AFTER FRUITING.

There remains but little to be done after the

fruit is gathered. All remaining runners and dead leaves should be removed, as well as the straw placed over the soil to protect the ripening fruits. Then lightly fork over the ground, and nothing more need be done until the spring. If the practice followed by many good cultivators of securing two crops of fruits only from the Strawberry plantation is adopted, it will, of course, be necessary to make a new plantation every two years if an unbroken yearly supply of fruit is wanted. For instance, if No. 1 quarter were planted in 1900 it would fruit in 1901 and 1902, and would also be destroyed in 1902, therefore the next quarter ought to be planted the same year to provide fruit in 1903. It is more satisfactory to make a fresh plantation every two years than to allow the plants to fruit for three seasons, although, if moderate sized fruit is all that is required, this and in quantity should be obtained from plants three years old.

PROPAGATION.

Strawberry plants are easily increased by rooting the runners that are produced in quantities during the summer months, and this is the usual and best

Make the soil fairly firm, and be sure that it is nicely moist before placing it in the pots. When the latter are all filled they may be taken down to where the Strawberry plants are growing in convenient quantities as required. Select strong runners, and examine them closely to see that the tiny plants are not "blind." A fair number will be found to have no proper centre; it is as though growth had been arrested. Such as these will not produce a satisfactory crop of flowers—if, indeed, they bear any at all—and are therefore useless. This is a matter of importance, for when the time for planting arrives it is very disappointing to find many of the runners practically worthless. Carefully examine them, therefore, before layering, and discard any that are of doubtful value. A. P. H.

(To be continued.)

VARIETIES OF THE COMMON BROOM.

THE wild Broom, which during the next few weeks will give a golden glow to every gravelly common in these islands, from the Highlands



THE MOONLIGHT BROOM (CYTISUS SCOPARIUS VAR. PALLIDUS).

method of propagation. They may also be raised from seed, but, except it is desired to raise new varieties, this method is not resorted to because the seedlings take several years to become strong enough to bear fruit. The runners should be rooted as early in the season as possible, so that they may develop into good plants by the time they are required for planting out in August. The term "runner," it may perhaps not be out of place to explain, is the name given to long, thin growths bearing tiny plants at intervals, which proceed from the parent plant somewhat numerously and "run" along the ground. The earliest runners possible should be secured, and these will be available by the end of June or early July. Cultivators adopt various methods of encouraging the runners to form roots, but for the purpose of obtaining plants to form a permanent outdoor plantation there can be little doubt, I think, of the following being the best. In the first place, obtain as many small pots of the size known as "sixties," and fill them with good loam from which all rough particles have been sifted. Before doing so, however, place one crock in the bottom of each pot, and so large that it more than covers the hole there.

to Cornwall, and from Wicklow to Connemara, has associations which English people are apt to overlook, though connected so intimately with the history of their country, more so than any other wild flower. For was not the common Broom the badge of the Plantagenet race of English sovereigns? Then it was that the flower was held in high esteem, and, according to some writers, it was the favourite flower of the Scotch.

But the shrub, beautiful as it is and brighter than any other native flower by its abundance as a wildling in some places, is seldom considered worthy of culture in the sense that it should be in a garden. Yet no shrub that I know produces such a glowing effect of rich yellow, and so valuable to the planter in districts where the shrub is not abundant in a wild state. "As common as Broom" is a phrase one often hears in a Surrey garden and other parts where it is abundant, but in the Midlands and other places, where the natural conditions of soil are not congenial to the

Broom, the amount of pleasure masses of it afford in a garden at flower time would scarcely be realised by those who see it about them in a wild state.

In every garden in localities where the Broom is not plentiful in a wild state there should be masses of it, and if the soil is not suitable it can be made so with little trouble, for all that the shrub asks for is an open well-drained soil, and this can be done even in the stiffest clays. It does not object very much to a chalky soil if there is other soil mixed with it.

The conditions that suit the common Broom are of course suitable for the varieties of it, and these are very few, but all extremely beautiful.

The variations from the typical common Broom are singularly few considering the millions of seedlings that must be continually appearing in every place where it is a wild plant. So far as I know, there are but four distinct varieties. These are the pale yellow, almost white sort, known as the Moonlight Broom, named botanically *C. scoparius sulphureus* or *pallidus*, the drooping variety named *pendulus*, very elegant with its drooping branches and flowers of the same colour as the type, and the increasingly popular variety *andreanus*, which was found a few years ago, just by chance, in Normandy by M. Edouard Andre, to whom we should be all grateful for discovering and making known such a splendid hardy shrub. The Moonlight Broom is a very old variety, as it was described by Loudon sixty years ago, but it is still a rare shrub not easily obtainable, though it is grown in some of the largest nurseries. It may be seen at Kew in perfection during the coming month, and its pale yellow flowers are in beautiful harmony with the rich yellow of the type and *Andreanus*. The only private garden where I have seen it in established mass is in that of Mrs. Robb at Liphook, where all kinds of tree and shrub varieties are treasured. I do not know if it comes true from seed, but I fancy it does not.

The Drooping Broom is also not a common plant, and it is strange that both it and the Moonlight Broom are not "taken in hand" by nurserymen. At Kew the pendulous variety makes a beautiful mass, never rising as the common sort does, and always looks

as if a bank or rock garden is the proper place for it to show itself to the best advantage.

Andre's Broom everybody knows, as it is now a common stock plant in most nurseries, and is planted in even commonplace gardens. The rich brownish crimson and yellow of the masses of bloom render it one of the most conspicuous of flowering shrubs in May and June, producing a colour effect which lasts for weeks. The original variety of this Broom is the finest, for though seedlings have been raised by thousands, none appear to excel in richness of colour the variety first discovered by Andre. The tendency rather in seedlings from it is to revert to the typical yellow Broom, and therefore it is most desirable to obtain plants on their own roots from the original stock.

This Andre's Broom is remarkable in another way, as it illustrates in a conspicuous manner the vagaries of Nature's laws of variation. The common Broom known for ages had never before this variety appeared been observed to vary in colour character of its flower excepting

the pale variety (Moonlight). Suddenly there appeared in an out-of-the-way place in Normandy this astonishing crimson variety, which did not escape the keen eye of Andre, the French landscape gardener. Now that the spell has been broken, we may yet have further variations of flower colour in the Broom. We may have a rich, clear red, and another without any trace of yellow in the flowers, as it is a well-known fact that when once a variation breaks away from a type species the change generally goes on evolving from the first variation.

A point about Broom culture I might mention. People often ask how Brooms are to be pruned when the plants get "leggy" in a few years. The answer is that nothing can be done to make dwarf bushy plants from "leggy" plants. The better plan is to start afresh with new plants, as leggy plants if cut hard back to the old wood do not break afresh in a satisfactory way. The pruning of Brooms must be continually carried out while the plants are still dwarf, and the cutting away of straggling branches must take place so as to leave vigorous green barked growth below the cut away parts. By doing this shapely bushes may be kept for years.

I have said so much about the common Broom and its varieties that it would be tiresome to continue about all the many kinds of *Cytisus* that will give colour in the garden from now until August. The conspicuous Brooms of the present week are the sulphur-yellow *C. præcox*, the low trailing, now hybrid, *C. kewensis*, quite a gem of a shrub for the rock garden; *C. Ardoini*, also dwarf little rock shrub of bright yellow colour in masses of small flowers. Then will follow the white Spanish Broom (*C. albus*) and the common Broom and its varieties, with the yellow *C. purgans*, which with *C. albus* produced the hybrid *C. præcox*. Following these come the species *C. biflorus*, *C. capitatus*, *C. hirsutus*, *C. sessilifolius*, and last of all the very beautiful *C. nigricans*, an August-flowering shrub that is not much known or planted, but is a most worthy plant to grow. I omitted to mention the fourth variety of the common Broom. This is the double variety, or so-called double, which has some of the petals duplicated, but the variety is in no way superior to the type, though it is interesting as being one of the few double varieties in Pea-shaped flowers.

Kew.

W. GOLDBRING.

NOTES OF THE WEEK.

FORTHCOMING EVENTS.

May 12.—Committee Meeting of the United Horticultural Benefit and Provident Society.

May 20.—Royal Horticultural Society's Committee meet; Royal National Tulip Societies' Exhibition (Southern section); both at Drill Hall, Buckingham.

May 21.—Ancient Society of York Florists' Show; exhibition of the Société Nationale d'Horticulture de France (six days.)

May 24.—Annual Meeting of the Linnean Society.

May 27.—Annual General Meeting and Dinner of Members of the Kew Guild at the Holborn Restaurant.

May 28.—Temple Show of the Royal Horticultural Society (three days); Annual Dinner of the Gardeners' Royal Benevolent Institution at the Hotel Metropole.

Oxalis rosea.—Amongst a batch of *Oxalis rosea* I raised last year from seed one came out with white flowers. I kept the seed of that, and this year I have four or five plants all white flowered. It is a novelty to me, though possibly

it has been met with before. It is a pure white, and alongside the rosea will, I think, be very effective. I mention this to you in case you care to put it in garden notes.—GEORGE DIXON, *Astle Hall, Chelford, Cheshire.*

The fruit prospects in Wales.—The prospects of a good crop of fruit in North Wales are very assuring. Owing to the delightful weather recently experienced the Peaches, Nectarines, and Apricots have set freely, while the Apple, Pear, Plum, and Cherry trees are covered with flowers, which later on will set freely provided they are not destroyed by frosts, &c. Last year the fruit crop was comparatively small, and meant a loss of dessert fruits during winter. As a matter of fact, this occurs without fail every two years, and a remedy has not yet been found. The thinning of the crop does not seem to impart vigour to the trees any more than a liberal feeding during summer, therefore it may be presumed that even trees require a rest sometimes.—J. DENMAN.

Bamboos in the North.—Many of the Bamboos can be quite successfully grown in a northern climate, and are not at all exacting in their requirements. Once started they require but little care. The chief thing to look for is shelter from cold winds, which are the chief enemy to these plants. Given this shelter the rest is easy. An abundance of vegetable or leaf-mould should be mixed into the soil to a depth of at least 3 feet. During dry weather they should have an occasional good soaking of water, especially when newly planted, also, when it can be procured, a dose of well-diluted liquid manure from the farmyard will help in the growing season. For the rest it is advisable to give an annual top-dressing of manure or leaf-mould, or both together in the winter or early spring. The following five kinds are what I should recommend for a beginning in a cold climate: *Arundinaria japonica* (Metake); *Bambusa palmata* has large foliage, and grows to about 4 feet, very good hardy sort; *Phyllostachys Henonis*, very attractive and graceful, good grower; *Phyllostachys nigra*, with dark stems; *Phyllostachys viridi-glaucescens*, a tall flower. Two others that are attractive and do well are *Bambusa tessellata*, very large foliage, a dwarf sort; *Arundinaria nitida*, very bright and graceful. To ensure success the Bamboos should be planted during the present month or early June, when growth is commencing.—N. B.

The Temple flower show.—For the fifteenth year in succession the Royal Horticultural Society will hold their great annual flower show in the Inner Temple Gardens (by the kind permission of the Treasurer and Benchers) on May 28, 29, and 30. Every year the desire of growers to exhibit increases, and the officials of the society have a very anxious task in endeavouring to do justice to those growers who regularly support the fortnightly shows of the society held at the Drill Hall, Buckingham Gate, and yet at the same time to encourage others also to come forward. The space is absolutely limited by order of the Temple authorities; no more or larger tents may be erected, hence every new exhibitor whose entry is accepted means curtailment of the space allotted to previous supporters. The society will issue an official catalogue, comprising a history of the Royal Horticultural Society, particulars of the meetings and exhibitions held at the Drill Hall, of the Coronation Rose show at Holland House, Kensington, on June 24 and 25, and of the fruit show to be held at the Crystal Palace on September 18, 19, and 20, also schedule of plants with the names and addresses of all the Temple exhibitors entered up to May 20. There will also be the programme of the music to be performed each day by the band of His Majesty's 1st Life Guards. The judges will meet at the secretary's tent at 10.30 a.m. on May 28, at which hour punctually the tents will be cleared of all exhibitors and their assistants. The fruit, floral, and Orchid committees will assemble at the secretary's tent at 11 a.m. sharp, and the show will be opened at 12.30. All plants for certificate must be entered on or before Friday, May 23. Address, Secretary, Royal Horticultural Society, 117, Victoria Street, London, S.W. A notice on a

post-card will be sent to each exhibitor on Wednesday, May 21, stating the number of square feet allotted to him, and the number of the tent (or tents) in which the exhibits are to be placed. No plants can under any circumstances be entered on the day of the show.

National Dahlia Society.—This society, of which Mr. E. Mawley is the president, Mr. J. F. Hudson, M.A., is the hon. secretary, and Mr. C. E. Wilkins the treasurer, seems, we are pleased to say, in a prosperous way. The report for last year says: "The past summer was again a trying season for Dahlias in the southern half of England, owing to the scanty rainfall, the great heat and dry atmosphere that prevailed during the daytime in July. For the fifth consecutive season exceptional drought has been experienced. The few days immediately preceding the exhibition were marked by high winds, which did much damage to the blooms of many growers and made it most difficult to secure specimens of the single varieties. The annual exhibition, held at the Crystal Palace on September 6 and 7, was one of the largest in the history of the society; a magnificent display of all sections of the Dahlia being produced. Omitting the blooms submitted for certificates, and those staged "not for competition," the number of shows and fancies taken together was 1,416, an increase as compared with the previous exhibition of 114; of Pompons 1,992, an increase of 84; of Cactus 2,463, a decrease of 162; of singles 1,452, an increase of 240; making a total of 7,323 blooms, an increase of 276. Twenty-two certificates were awarded to new Dahlias on this occasion. On September 24 a meeting was held at the Drill Hall, Westminster, in conjunction with the fortnightly meeting of the Royal Horticultural Society, when nineteen certificates were awarded to new varieties. The committee desire to convey their best thanks to the donors of special prizes, viz., the President, Mr. F. W. Fellowes, Messrs. Keynes, Williams and Co., Messrs. J. Cheal and Sons, Messrs. J. Burrell and Co., Mr. J. Stredwick, Mr. S. Mortimer, Mr. A. Dean, Mr. R. Dean, Mr. T. Hobbs, also to the Horticultural Club for kindly allowing the society's meetings to be held in the club room. The list of Cactus Dahlias that has been published annually by the society for some years will not in future be issued, as the society considers that such a list is no longer necessary. The arrangements made with the Crystal Palace Company the last two years having proved far from satisfactory, the committee have decided to hold the exhibition in 1902 in conjunction with the Royal Horticultural Society in their exhibition hall at Buckingham Gate, Westminster. Their thanks are due to the president and council of the Royal Horticultural Society for granting the society this privilege, and also for placing their staff of assistants at the service of the committee on the show days. In order that this new venture may prove in every way a success, the committee request the kind co-operation of the members in making the exhibition generally known among their friends, and by inducing new members to join the society. The income of the society from all sources, including the balance of £6 10s. 5d. in the society's favour from the year 1900, amounted to £222 17s. 11d.; and the entire expenditure, including the payment of all prizes awarded at the exhibition, amounted to £219 18s. 9d., leaving a balance in the treasurer's hands of £2 19s. 2d. The annual exhibition for this year will be held at the Drill Hall, Buckingham Gate, Westminster, S.W., on Tuesday and Wednesday, September 2 and 3. A committee meeting will be held, also at the Drill Hall, on Tuesday, September 23, for the purpose of awarding certificates to seedling Dahlias. Entries will be received by the hon. secretary at the Drill Hall, before 11.30 a.m., on the morning of the show. Members subscribing £1 are entitled to four tickets of admission to the society's grand exhibition at Westminster; those subscribing 10s. to two tickets; and those subscribing 5s. to one ticket. Each member joining the society for the first time this year will receive a copy of the 'Official Catalogue of the National Dahlia Society.' Members alone have the privilege of exhibiting at the exhibitions of the National Dahlia Society."

National Rose Society.—The Metropolitan Exhibition will be held in the Temple Gardens, London, on Wednesday, July 2; the Southern Exhibition at Exeter, on Friday, July 4; and the Northern Exhibition at Manchester, on Saturday, July 19. Prizes will be offered by the society at the Royal Horticultural Society's Rose Conference, which will be held at Holland House, Kensington, on Tuesday and Wednesday, June 24 and 25.

Tufted Pansy Molly Pope.—With the constant introduction of new yellow rayless Violas, it is pleasing to know that this charming variety is still one of the best. Plants are now flowering freely, and make a good mass of colour. It is planted freely in Waterlow Park, and for some months to come there should be a welcome display of blossoms. It is a lighter shade of yellow than A. J. Rowberry, and more effective. In one of the papers read before the Viola Conference at the Royal Botanic Gardens, Regent's Park, in August, 1896, this variety was referred to as a good new one, but many of the newer Violas are quickly superseded by others.—D. B. C.

Roses in Southern California.—The rapid and immense growth of all Rose plants is a matter of astonishment to all newcomers in Southern California. There are hundreds of climbing Roses that have grown 25 feet and 30 feet in three years. At the Arlington, in Santa Barbara, there is a climbing Rose bush some twenty years old, whose innumerable branches cover an area of over 2,000 square feet on the long side of the hotel. Its four main trunks, 3 feet above the roots, are each 5 inches in diameter, and it is common for people in Santa Barbara to be photographed sitting on a curve made by one of these trunk branches. At Riverside there is a Lamarque Rose bush, fourteen years old, that has twisted its huge branches serpent-like about the trunk of a mammoth Pepper Tree, and followed each limb of the tree out to the end, so that in the weeks of blooming the tree looks like a stupendous bouquet of green, flecked with tens of thousands of white Roses. Climbing Roses that bear 10,000 and 12,000 blossoms at a time are common in every locality in Southern California. Some of the bushes, about ten years old, in Pomona Valley, have for several years borne annually from 20,000 to 30,000 blossoms at a time. There is in Ventura a magnificent specimen of a white Lamarque Rose. It was planted in November, 1876, and has been trained over a large arbour. Its main stem, immediately above the ground, measures 2 feet 9 inches in circumference. Two branches start from it, and each is 2 feet 1 inch in circumference. It has been cut back and heavily pruned each year, and last year over a waggon load of prunings was taken away from it. For several years the girls and boys of Ventura have counted the number of blossoms every March and April. In five years they have annually been over 14,000, and last April they numbered 21,640. Botanists say they can discover no signs of degeneracy due to old age or rare fecundity in the wonderful plant.—*The Weekly Post* of New York.

Waterlow Park.—At all seasons this charmingly situated North London park has much to interest visitors, and especially those who have a love for gardening. The Hyacinths are just past their best, but, judging from what we saw of some of the beds and borders in sheltered positions, they have made a very effective display. At the time of writing the Tulips were brilliant, the method of planting adopted here making the most of the material available. At the main entrance—by St. Joseph's Retreat—there is an immense sloping border with a southern aspect, and at all times the best is made of this valuable position. The upper part of this broad sloping border is planted with superb Narcissi in masses of certain effective sorts, Maximus, Sir Watkin, Emperor, and others making a great show. Below these an immense breadth of Wallflowers just coming into blossom promises well, although the quality of flowers, at least what was seen of them, was hardly up to the usual standard. The Tulips are planted at the lower end of this broad border in groups, arranged in semi-circular form, and they were without

doubt the brightest of all the occupants of the beds and borders. Proserpine, with its refined rosy lavender blossoms in splendid form, was feeling the cutting effects of the strong easterly wind. Specially effective were the groups of Keizer Kroon, with large flowers of crimson-scarlet, margined golden-yellow. Some little distance removed masses of Duchesse de Parma were seen to advantage. The ever-popular Cottage Maid, with dainty blossoms of soft lake and white, was greatly admired, as were the yellows represented in this instance by Ophir d'Or, rich golden yellow, and Yellow Prince, of a brighter shade. Belle Alliance was a brilliant group of dark scarlet blossoms, and there was promise of this being succeeded by a beautiful mass of Couleur de Cardinal, a fiery scarlet. The foregoing are a few of the more striking sorts. The herbaceous border is always interesting, and as this aspect of gardening is carefully considered at Waterlow Park, each week sees the list of plants in flower augmented. The older forms of the Aubrietia are just now very pretty, and, as they are represented by immense clumps, they are greatly admired. There are three small lakes here, and in one of the three some of the newer Nymphaea might with advantage be planted. This is a splendid opportunity for the Parks Committee of the London County Council to make these beautiful Water Lilies known to the London public.—D. B. C.

Spring protection for Pears.—There are signs of a very heavy crop of Pears, every description of tree, from the cordon of some three or four years from the planting to the big fan-trained that must be close on 100 years old, being loaded with blossom. In the case of cordons I protect them with a double thickness of $\frac{1}{2}$ -inch mesh netting, which always ensures a good set, but the older trees have to take the risk. I think the advisability of spring protection for the best Pears should receive more attention, for, given a long wall or cordons planted with the best sorts, ranging from Jargonelle to Josephine des Malines, the value for dessert is unquestionable. Personally, I always pick out the best nets for the Peaches and cordon Pears. When natural copings that admit of the nets swinging clear of the trees do not exist, it is advisable to fasten a stout board to the top of the wall and hinge another on to this that can be lowered at will to project some 6 inches. The nets can be secured to the projecting board, and the latter pushed back on the top of the wall when the nets are not required. We find them, however, quite as necessary in autumn as in spring. Tits are very troublesome, and without protection a lot of the best fruit would be spoilt.—E. BURRELL.

Anemone apennina.—This charming Anemone is one of the most welcome of our spring flowers. It is quite happy in places where many plants would scarcely find a living, at the feet of shrubs and in edges of shrub thickets. Where garden joins woodland is its favourite and

most appropriate place, though there is many a shaded bank or rough outer edge of rock garden where it will do well. Those who have ridden in spring time in the Roman Campagna will remember the little blue stars studding the edges of thickets and brambly brakes, just the kind of places where at home we find the sweet wild Violets, which indeed are there also.

Horticulture in Monmouthshire.—Mr. W. J. Grant, the organising secretary to the Technical Instruction Committee for Monmouth, sends a copy of his report. It deals with poultry, dairy work, cheese making, &c., besides horticulture. It is interesting to know that there are hedging classes, attended almost entirely by farmers' sons, and much attention is given to orchards and fruit culture. Mr. Grant says: "In every instance the attendance was most encouraging."

Flowers in Park Lane, Hyde Park.—A brilliant blaze of colour is afforded just now by bulbous flowers from Park Lane to Stanhope Gate. All round there appears to be a much stronger bloom than last year. A brief notice of a few of the more prominent beds may be worthy of record. Tulips contribute much to the floral display. Bright is a bed of Joost van Vondel, rosy crimson, flaked white, associated with herbaceous Pyrethrums, the foliage of the latter enhancing and toning down the brightly coloured Tulips. Vermilion Brilliant, a dazzling colour, with yellow Wallflowers, is good. Very pleasing is Keizer Kroon, yellow and red, large flowers, carpeted with Myosotis. A good effect is produced with Keizer Kroon having a band of Joost van Vondel. Very striking is a small round bed planted with Jonquil Campenelle and having a carpet of red Daisies. Jonquils and Tulip Crimson King present a very bright combination. Beds devoted to the following



A GROUPING OF ANEMONE APENNINA. (From a photograph by Miss Wilmott.)

Tulips are very effective: Pottebakker, scarlet, very large flowers; Mars, bright crimson; Cottage Maid, white and rose, exceedingly pretty; and White Pottebakker, good; Queen of Violets and Thomas Moore, beautiful apricot, with dots of a dark Wallflower, present a fine appearance. Two beds of mixed Auriculas are making a good show. A border on the west side of the Marble Arch, also one at the Dell (east side of the Serpentine), are now looking grand, planted with Tulips, Hyacinths, and Narcissi in blocks of colour. They are the admiration of all who see them.—*Quo.*

Destruction of queen wasps.—I am glad to report a great falling off this year in the number of queen wasps, only a few dozen having been killed, as against hundreds in former years. It is to be hoped they will be equally scarce at the time fruit is ripe. Might I again offer the suggestion that their destruction both so far as the queens and nests are concerned might be taken up by parish and district councils in all districts where they are locally troublesome, as they are a source of annoyance, not only in private gardens, but to many branches of the community, such as grocers, confectioners, butchers, &c. I am aware that they do a certain amount of useful work, but during the last few years they have visited us in such numbers that the damage done to fruit has been very great.—*E. BURRELL.*

Royal Caledonian Horticultural Society and Scottish Horticultural Association.—For many years the Royal Caledonian Horticultural Society held a large summer show in the Waverley Market in July, but since 1889 that has been discontinued. The Scottish Horticultural Association has for a few years held a small summer exhibition, and in 1900 the Royal Caledonian Horticultural Society also held one. In this the Coronation year of His Majesty King Edward VII., the two councils have cordially agreed to hold a summer show in the Music Hall, George Street, Edinburgh, on Wednesday, July 16. Exhibits of Roses, Carnations, Sweet Peas, herbaceous flowers, Irises, and other midsummer flowers, Strawberries and other fruits, also plants and vegetables that may be interesting to horticulturists, are specially invited, and medals or other awards will be given to meritorious exhibits. If desired, the councils will make arrangements for unpacking and staging any exhibits. Every care will be taken, and exhibits will be returned, if desired. The societies will take precautions to safeguard such exhibits, but will not be responsible

for any loss or damage. Exhibits must be staged before 11 a.m. on the day of the show, and intimation of the proposed exhibits and the probable space to be occupied, with a description of the character of the exhibit, should be made to either of the joint secretaries not later than July 12. In the case of exhibits sent by rail or post, they should be sent to the Music Hall, and a separate advice or post card should be sent to either secretary. Unless this be done the risk of parcels going astray will be greatly increased. The notice sent to us is signed, in name of the respective councils, by Mr. P. Murray Thomson, 5, York Place, Edinburgh, Secretary, Royal Caledonian Horticultural Society, and Mr. Peter Loney, 6, Carlton Street, Edinburgh, Secretary, Scottish Horticultural Association.

English Gooseberries in Michigan.

—The following remarks occur in a report published by the Michigan Agricultural College Experiment Station: With the exception of a few English varieties, Gooseberries did as well as usual this season. Champion, Chautauqua, Lancashire, and Orange were the most productive of the English varieties. Chautauqua made the best showing of any of the varieties of this class. Among the American kinds Downing, Pearl, and Red Jacket gave the largest yield. Pearl and Red Jacket are promising new varieties. This season they bore fruit a little larger than that of the Downing, but were a trifle less productive. The plants of these two varieties do not quite equal Downing in vigour. Flowers of sulphur, one ounce to three gallons of water, was again used, as for several seasons past, for the prevention of mildew, which is especially liable to attack the English varieties. The first application was made on May 1, and was followed by others at intervals of ten days until the fruit ripened. The disease appeared in June, but only to a slight extent, upon two or three English varieties. English varieties: Apex, Champion, Industry, Orange, and Triumph. In a list of the best varieties for home and market, out of seven enumerated, four are English, viz., Chautauqua, Columbus, Keepsake, and Lancashire.

Two good new Ferns.—Apart from Pteris Wimsetti multiceps, which was given an award of merit at the meeting of the Royal Horticultural Society on April 22, there was an extremely beautiful variety shown as Pteris Childsi in a group from Mr. H. B. May, of Edmonton, which, judging by many of the remarks overheard, will be much sought after when it is distributed.

It forms rather a dense-growing specimen about a foot high, but any suggestion of lumpiness is prevented by the lightness of the crisped and undulated fronds. The fronds, whose divisions vary in width from half an inch to double that amount, have cut and slashed edges, and as regularly waved as if they had been goffered, while many of them are crested at the tips. In addition they are of a pleasing shade of light green, which without any suggestion of sickliness furnishes a tint but little represented among Ferns in general. It is, I presume, of garden origin, and its general appearance suggests that Pteris Wimsetti may have played a part in its production. The form to which an award of merit was given, viz., P. Wimsetti multiceps, has the fronds much cut and crisped. It is a delightful Fern of good habit and constitution.—*T.*

SIMPLE METHODS OF FORCING RHUBARB.

THERE are various methods of forcing Rhubarb practised by gardeners of to-day, yet we think those herewith illustrated are as simple and effectual as any, and therefore to be commended. They are adopted in the Syon House Gardens of his Grace the Duke of Northumberland, where Rhubarb forcing is carried on to a considerable extent. The illustrations convey the lesson so simply that very few words or explanatory remarks are necessary. In both cases the Rhubarb roots are planted out of doors, and their growth has in the one case been hastened by a covering of long manure, and in the other by means of an ordinary barrel. With the help of these simple expedients Mr. Wythes obtains forced Rhubarb of excellent quality.

THE KENTISH CHERRY ORCHARDS.

KENT is a beautiful county at most seasons of the year, but never more so than when the Cherry orchards are masses of flower. A single Cherry tree when in blossom, whether it be in orchard or garden, is a beautiful object, but when it comes to miles of them, stretching away almost as far as one can see, then words are quite inadequate to describe the effect. It is singular that one corner of England holds the monopoly for the cultivation of this fruit, but such is the case; indeed, the Cherry-growing area is not large, but more fruit is produced there than in all the rest of the country put together. Some authorities say that Cherries would grow equally as well elsewhere, but people do not plant them on anything like a large scale, and meanwhile the growers in the Hop county enjoy the enviable position of being without serious competitors in this particular industry. I say without competitors, but I must not forget the growers on the other side of the Channel, who are something of a thorn in the side of the Kentish cultivators, particularly with the early supplies. One thing, however, is certain, Cherries are at home in Kent. Whether it be the soil, or the situation, or a mixture of both, it is obvious that the fruit rejoices in the conditions, and this, perhaps, is the keynote of the whole thing. It is all very well to advocate fruit culture, but Nature should be the guide in selecting localities, and the trees which grow in the Hop county prove that so long as the cultivator does his part there need be nothing to fear.

To get into the heart of the Cherry country one can make Maidstone, Sittingbourne, or Faversham the starting point, and work through miles of orchards just now clothed in their mantles of blossom. The pink and white of the clusters of



FORCING RHUBARB BY A SIMPLE COVERING OF MANURE.



FORCING RHUBARB WITH THE HELP OF AN OLD BARREL.

flowers, and the delicate tint of the bursting growths, make a delightful contrast to the surrounding vegetation and the bright green of the fresh grass beneath the trees. The individual who sees only the beautiful side might go in raptures over the picture, but the practical man, though he be not wanting in admiration, observes something more than a sea of flowers. He has before him an illustration which flatly contradicts the oft-repeated statement that the methods of English fruit growers are altogether behindhand. I hold no brief for Kentish Cherry growers, but there are acres and acres of orchards in the county comprised of trees that are examples of good cultivation, both by the way in which they were originally planted and by the method of training and pruning to which they have since been subjected. There are numerous instances also of the vitality of the Cherry tree when grown under favourable conditions, and nothing could be better than Kentish loam with the lime element present in the chalk.

There are giants with boles and limbs equal to those of a forest tree, towering upward, and spreading this way and that, with every twig a wreath of blossom. These represent the Cherry when most profitable, but there are relics also of once vigorous specimens, partly decayed, but so long as a spark of life remains they seem capable of producing flowers and afterwards fruit. The young orchards, on the other hand, speak of the future. The vigorous shapely standards are planted in straight symmetrical rows; the intervening spaces are not yet filled up, but they will be in time, when the older orchards have finished their work.

Naturally enough, when the whole country is beautiful with blossom, the all-absorbing question is the prospect of fruit. Judging from the flower-laden trees the promise is fair enough, but Cherries are a precarious crop, and the grower is never really sure of them till they are safe in the basket. A nipping frost may quickly upset all calculations, a hailstorm after the fruit is set may spread devastation, and continued wet about ripening time result in wholesale decay. Bird life, too, has to be reckoned with, and from early morning till dusk, when the ripe fruits hang thick on the trees, a continual watch must be kept to keep off the marauders. From this it will be seen that Cherry growing is not certain, but one would think that all fear ended with the picking of the fruit. It is hard to believe that there could be a glut of Cherries when one county practically produces the

country's supply, but such a thing is not unknown, and last year, when the crop was above the average, many tons of fruit were sold that did not show a profit after expenses were paid. This does not reflect very creditably on our system of distribution.

The Cherry growers are at the beginning of an anxious time. The crop means something to them in these days when other branches of the farms are none too profitable. The bright display of showy blossom gives ground for hopes, but these are mingled with doubts and fears, as many things may happen between now and the time of picking. The casual observer, however, who is not financially interested, has none of these things to worry about, and can therefore enjoy the mass of blossom undisturbed by any cares for the future.

G. H. H.

THE ROSE GARDEN.

HYBRID TEAS UNDER GLASS.

IF this beautiful and modern group has special claims as garden Roses they also are the most useful for pots or for planting out under glass. Whilst combining all the charms of the true Teas, they are by their sturdier nature more easily grown and require less artificial heat. Moreover, the stiff erect stems of the majority of kinds are wanted at the present day when so many flowers are in demand for cutting.

I do not wish to depreciate the true Teas, but I always like to recommend Roses that anyone can grow easily under ordinary conditions. To grow the true Teas to perfection houses entirely devoted to this class are needful, but the Hybrid Teas would thrive with other cool greenhouse plants providing a uniform treatment is accorded. Most of them will even flourish in cold pits. In fact, this is an excellent way of obtaining Roses a few weeks earlier than outdoors, and it also lays the foundation for a stock of forcing plants for another year. If a quantity of a few good varieties are potted up in autumn and plunged at once into these cold pits they may be pruned in February, and would be in bloom by the end of May and early in June. The method of culture brings out many tints which we do not see in flowers outdoors.

Under glass the beautiful yellow shading of Antoine Rivoire is very pronounced, but outdoors the rosy flesh tint predominates. Then, again, Grace Darling is almost another Rose under glass, and this is true of others. One not much known and a variety I have hitherto had but little opinion of is Violoniste Emile Lévêque. A flower under glass this year was quite a golden-yellow colour. Kaiserin Augusta Victoria is a superb Rose for forcing. It is not so good for winter as it is from April to May; its flowers are so double that they do not expand well. The market growers, instead of disbudding, allow all the buds to remain, the first flowers being rather short stemmed, but afterwards fairly long. The climbing form of this Rose is very vigorous and well adapted for a lofty conservatory wall or roof. The secret as to the origin of Kaiserin Augusta Victoria has only recently leaked out. Herr Peter Lambert, whom I believe was its raiser, although he did not introduce the variety, says it resulted from a cross between Coquette de Lyon and Lady Mary Fitzwilliam.

Liberty seems destined to supplant all crimson Roses for forcing. The market growers are well satisfied with it, which is not surprising when flowers of this variety early in the year brought as much as 12s. a dozen wholesale. It makes fine strong growths when the plants are established. All who have large demands for crimson Roses for late autumn, winter, and early spring should lose no time in planting or potting on a stock. Caroline Testout with all its faults of lumpiness is a fine pot Rose. It is very free in growth, and in spite of being weak at the neck the half-open flowers are very effective. Naturally we turn instinctively to La France or Duchess of Albany, because here we have beautiful imbricated form, and, moreover, exquisite perfume. Ferdinand Jamin is a somewhat neglected Rose. I believe it will surpass Mme. Abel Chatenay for indoors, but it can never supplant it outside, although some may prefer it. Mrs. W. J. Grant is still grown by a few market growers, but there is one serious objection to the variety, i.e., it is apt to fade soon after being cut, otherwise its beautiful long buds are most useful. Mme. Jules Grolez is being used as a substitute for the latter with much success.

Captain Christy is a favourite pink Rose for forcing, probably because of its massive flowers, but surely if a sweet-scented Rose is available this will not be wanted. Souvenir de Mme. Eugene Verdier is one of the best nearly white Roses, as also is Souvenir du President Carnot. The long buds of the latter make it most useful for cutting. It is rather defective, however, in growth. There are now so many white, or nearly white, Roses that it is difficult to select the best. White Lady remains one of the best, its shapely buds and huge open flowers being magnificent. L'Innocence is good under glass, but requires much care in cultivation, its petals being very thin. It is rather difficult to know when to call a Rose a Hybrid Perpetual and when a Hybrid Tea, especially when it is known that one of the parents is a Hybrid Tea and the other a Hybrid Perpetual. Certainly the beautiful Rose, so well exhibited by Messrs. William Paul and Son, of Waltham Cross, on a recent Tuesday, namely, Frau Karl Deuschki, seemed to come perilously near the Hybrid Teas, although announced as a Hybrid Perpetual. The raiser describes it as the result of a cross between Merveille de Lyon and Caroline Testout. It will be a grand Rose for cutting, but whether it is as free as the Hybrid Teas has yet to be ascertained.

Gloire Lyonnaise must not be omitted from even a small selection of Hybrid Teas, even were it only for its yellow buds, but the big expanded flowers are very showy, whether cut or growing on the plant.

Clara Watson is not grown one half so much as it should be. Were I restricted to six Hybrid Teas this would be one of them. Mme. Eugénie



BERBERIS STENOPHYLLA IN THE BERBERIS DELL, KEW. (An example of simple grouping.)

fiouillet is perhaps one of the most attractive of the Hybrid Teas in colour. It is bright yellow, shaded with deeper yellow, with a tinge of carmine, a beautiful harmony. Of the deeper coloured Roses, Exquisite is steadily gaining in popularity. It has both form and fragrance, and the objectionable dull hue of the oldest flowers outdoors is not present on those grown in heat.

Lady Battersea will be a useful Rose in the bud state. For want of a better term what I will call the decorative group of the Hybrid Teas, such as Camoens, Grüss an Teplitz, and Viscountess Folkestone are not a success in pots, neither are they wanted here. We have ample material already. The great desiderata is a good rich yellow. Billiard and Barre and Mme. Ravary are the best at present, but signs are not wanting that we shall have even better before long.

The best kinds to grow in cold pits are Caroline Testout, all the La France tribe, Marquise Litta, Mrs. W. J. Grant, Captain Christy, Gloire Lyonnaise, Exquisite, and White Lady.

PHILOMEL.

AMERICAN NOTES.

NOTES ON AQUATICS.

It is most gratifying to note that with the onward march of prosperity horticulture keeps abreast of the times. There is an increasing demand for flowers, plants, and trees in all lines, and for a higher grade of goods. There is, too, a very great demand for hardy plants, perennials, herbaceous plants, old-fashioned or whatever these hardy plants may be called. The demand for this class of plants only confirms the fact that there is more care taken, more thought given to the home garden, where tender exotics are not considered indispensable to make a garden attractive and inviting. This demand will continue to grow with an ever-increasing love of Nature and Nature's gardens and flowers. The home garden, of the cottage as well as the mansion, is receiving greater attention, and homes, too, without gardens are decorated with plants and flowers, not only at festivities of royalty but on every-day occasions. Flowers also find their way to the sick chamber and hospital, carrying health, brightness, cheerfulness, pleasure, and much more to the sick. Let us, and especially those that are sick and unable

to visit Nature's gardens, have more of them. It is a pleasure to note the increasing numbers of rural homes under construction and the improvements of old ones, the delights of country life, and the tendency toward natural gardening. The landscape is not complete without water, and where there is water surely there ought to be something in the way of water gardening, and where the garden is limited water gardening may be had in miniature. To a lover of flowers all are lovely, but all flowers have their season, some sadly too short and others not in place at all times. But of Water Lilies it may be said none come too soon, none stay too late. They are with us as soon as winter's chilly blast is o'er, and they are still with us till winter comes again. Spring, long anticipated and delayed, is here again, and preparations are made or being made for the season's planting, so there is activity all along the line.

While it is most gratifying to realise an ever-increasing demand for aquatic plants, it is particularly noticeable that there is little change in this line in our public parks, certainly not the progress we might expect. There are different styles of water gardening, and some fine examples are seen and fine specimens of flowers, but where is there a model water garden to be seen to-day? Facilities plenty, material abundant. Our public men are too much engrossed in business, politics, or what not, and too niggardly to make appropriation sufficient for an enterprising man to carry out any elaborate style of gardening. I know a case where a progressive superintendent has been working four or five years to construct a water garden, and who has nearly accomplished his object, but has no funds to purchase stock, but would gladly exchange other stock that he may the sooner attain his desired and long-looked-for water garden. There may be others working under similar difficulties, but it ought not to be so.

On the other hand, many are constructing ponds, building aquatic houses, ponds or pools adjacent to buildings. These must conform to architectural designs, and are, consequently, formal, stiff, unnatural, unsuitable in more ways than one; sometimes too deep, at other times too shallow, and in most cases too small. Yet under these conditions success is expected, however great the difficulty. It has been our desire, and we have endeavoured to remedy this error in construction by inviting all persons intending planting aquatics

to write us giving particulars of the proposed pond and so forth, and we gladly offer practical suggestions as to construction, selection of plants, and any other information, yet in most cases the pool or fountain basin or pond is made and all ready to plant, and in many cases very inadequate for the plants intended to be grown.

Water Lilies or Nymphaeas are very strong and attractive flowers, but there is a great difference between the hardy and tender varieties in growth, size of flower and foliage, and to the ordinary observer the largest flowers and the most attractive colours make the keenest impression. These are undoubtedly the tender or tropical varieties, and should these plants have a name attached to them it is very likely such varieties might be added to the list another season without consideration as to their fitness for the desired place or purpose. The trouble is that few of us realise what tropical vegetation is, and do not give the plants a chance to grow or to develop their true character. Let all get closer to Nature, have more natural ponds and surroundings, and not attempt too much on a limited area, but select suitable varieties in each case, and if certain varieties are desired see that adequate means are allowed for perfect development.

The culture of these plants is better understood to-day than ever before, and for those desirous of obtaining knowledge in this line there are books, pamphlets, cultural notes, and so forth. To those who may propose growing these charming and most fascinating flowers, I would say devote all available space, and if the space is limited to a few hundred square feet do not attempt to grow everything, but select suitable varieties that are most likely to give the best results. Do not plant too soon. Hardy varieties may be planted as soon as vegetation is quite active and flowering shrubs are in blossom. They may also be planted any time during the growing season right to the end of August, but at this late date they will only establish themselves, but will be in excellent condition to start quite early the following spring.

Do not plant Nelumbiums before warm, settled weather is assured, which is usually May, but no date can be just stated for general guidance over so vast an area. Conditions must guide in all cases, and what is right for one class of plants may be altogether wrong for another. Tender or tropical varieties should not be planted till early summer and the water is warm, the season varying with locality from the middle of May to the first week in June. — WM. TRICKER, in *Gardening* (America).

TREES AND SHRUBS.

AUCUBAS.

JUST now the Aucuba is displaying the full beauty of its brilliant scarlet berries and adding a cheerful note to the spring colouring. The complaint is often made that though Aucubas have been full of fruit when obtained the berries in succeeding seasons have been conspicuous by their absence. The reason lies in the fact that in Aucuba the two sexes are borne on separate plants, and therefore it follows that if all the plants procured are bearing berries they cannot carry another crop afterwards for lack of a male plant to effect fertilisation. To distinguish the two sexes if no fruit is present is not an easy matter before the flowers expand in April, but if carefully watched from October onwards the flowers spikes will show themselves strongly in

the male plants, but in the female they are so small as to be scarcely visible. When expanded the small, star-like male flowers are of a bright chocolate colour, while in the female plants the blooms are smaller and much paler.

Of late years a great number of named forms of *Aucuba* have been sent out by various firms, chiefly continental, but in the majority of cases the name is the most distinctive part. Many of them can be found on ordinary plants growing under certain conditions of soil and shade. Besides the typical mottled-leaved form, which is probably the best one to grow, the following are distinct and worthy of cultivation:—

A. japonica var. *fructu-albo*.—This is a tall growing and rather upright form, with large shining green leaves 4 inches to 6 inches in length and about 3 inches broad at the widest part. It is a strong and vigorous evergreen, but the berries being of a yellowish white colour are practically inconspicuous.

A. j. var. *latimaculata*.—This is a spotted form which much resembles the common *Aucuba*, but it is bushier and rather dwarfer, and the variegation is also more pronounced.

A. j. var. *limbata*.—This is a small growing variety, with medium-sized leaves, the centres of which are bright green and the edges broadly margined with gold. It seems rather poor in constitution, but answers admirably for window boxes or the edges of beds.

A. j. var. *vera*.—This is a dwarf growing, bushy plant, with thick shining green leaves rarely more than 3 inches in length by rather less than half that in width, and coarsely dentate. If berries are desired this is the best form to grow, as the fruit is of the brightest scarlet colour when ripe, and very freely produced. The leaves also being small the fruit is not hidden so much as it is in some of the other larger foliaged forms.

A. j. var. *viridis*.—This is another green form with lanceolate, pointed leaves, 4 inches to 6 inches long by 1½ inches in width, with entire and sometimes wavy margins. The berries of this variety are the finest coloured of the *Aucubas*, being of a deep shining scarlet and very conspicuous.

The *Aucubas* can be grown almost anywhere, but they are very partial to a cool, partly shaded position and a good soil with a fair dressing of manure in it. Propagation is effected by seeds and layers, rooting readily by the latter method. Cuttings are easily rooted, but the plants never seem to grow well afterwards, often standing for years without making any perceptible growth, while from layers good plants can be obtained in three or four years.

Bagshot, Surrey.

J. CLARK.

BERBERIS STENOPHYLLA.

THIS is certainly one of the most beautiful and graceful of all hardy shrubs, and we are pleased to illustrate it as showing the beauty of a single group. It is a hybrid between *B. Darwini* and *B. empetrifolia*, and is beginning to flower at Kew in the *Berberis* dell.

TROPICAL FRUITS FOR ENGLISH GARDENS.

(Continued from page 290.)

MANGOES.

THE Mango (*Mangifera indica*) is, *par excellence*, the fruit of the tropics. Originally a native of India, it has become widely distributed wherever the conditions are suitable. It has been termed the Peach of the tropics, and the descriptions given of first-rate Mango fruits by those who have tasted them make one's mouth water. All attempts to import ripe Mangoes into England have so far failed. To enjoy them we must therefore either go to the tropics or master their cultivation at home. I have never heard of any serious effort to grow Mangoes in this country. It is true that fruits have been produced on plants cultivated at

Kew and in several other gardens, but they satisfied no one. The tree grows to a large size—"trunks 30 feet to 40 feet high and 10 feet to 15 feet in circumference"—but it may be kept much smaller than this. The plant which fruits at Kew is only some 8 feet high. It appears to require the same treatment as an Apple or Pear, except that the temperature must be tropical, or, at the lowest, sub-tropical. It likes manure, plenty of it, and a loamy deep soil. According to Woodrow, in whose book, "Gardening in India," there is an excellent account of the Mango, bones in any form are good for the trees, and an annual dressing of salt, as much as 10lb. to each big tree, is given in October or November to encourage the formation of flower-buds.

There are many varieties, as many as of Apples, according to Woodrow, and they are as different in size, flavour, and value as Apples are. The best are excellent. They are all grafted, a seedling Mango being of as doubtful merit as a seedling Apple. The best sorts recommended by Woodrow are Alphonse, Pirie, Pakria, Punhala, Borsha, Mulgoba, Banchoire, and Massarata. In addition to these he recommends and enumerates many other varieties. His description of Alphonse is worth quoting: "Universally admitted to be the finest of all Mangoes. In flavour its fruit is indescribable; it seems to be a subtle blending of all agreeable flavours. In weight it averages 8 ounces; its colour is green, with a rich crimson glow on the exposed side; its shape is oblong, thickened at the upper end without any stigmatic point or beak. The variety is to be recognised when not in fruit by the bright red mid-rib of its leaves. The tree is stunted or irregular, rarely forming a shapely specimen."

Plants of the best Mangoes can be purchased in India for about 2s. each, and they are easily sent to England in a Wardian case, as has been recently shown by the collections obtained for Trinidad from Calcutta, and which were transported *via* Kew. The cost of a house suitable for their cultivation would not be greater than that of a large Peach house or vinery, and the labour of cultivation certainly no more than that of forced Peaches. A house filled with Mangoes in fruit would be highly creditable, especially as it might be the means of adding to the list of English dessert fruits another which in flavour and quality is unlike any fruit we have. W. W.

(To be continued.)

FRITILLARIAS AND THEIR CULTURE.—I.

THE *Fritillarias*, a race of Lily-like bulbous plants widely spread throughout the northern hemisphere, are a varied group. Their flowers range in form from the tubular outline of the well-known recurva types to the inflated, balloon-like flowers of the *F. Meleagris* group. Their rootstocks vary from a Pea-like bulb to a flat disc the size and shape of a crown piece, whilst in stature they range from the tiny 3-inch stems of *F. armena* to the tall commanding shafts of the *Crown Imperials*.

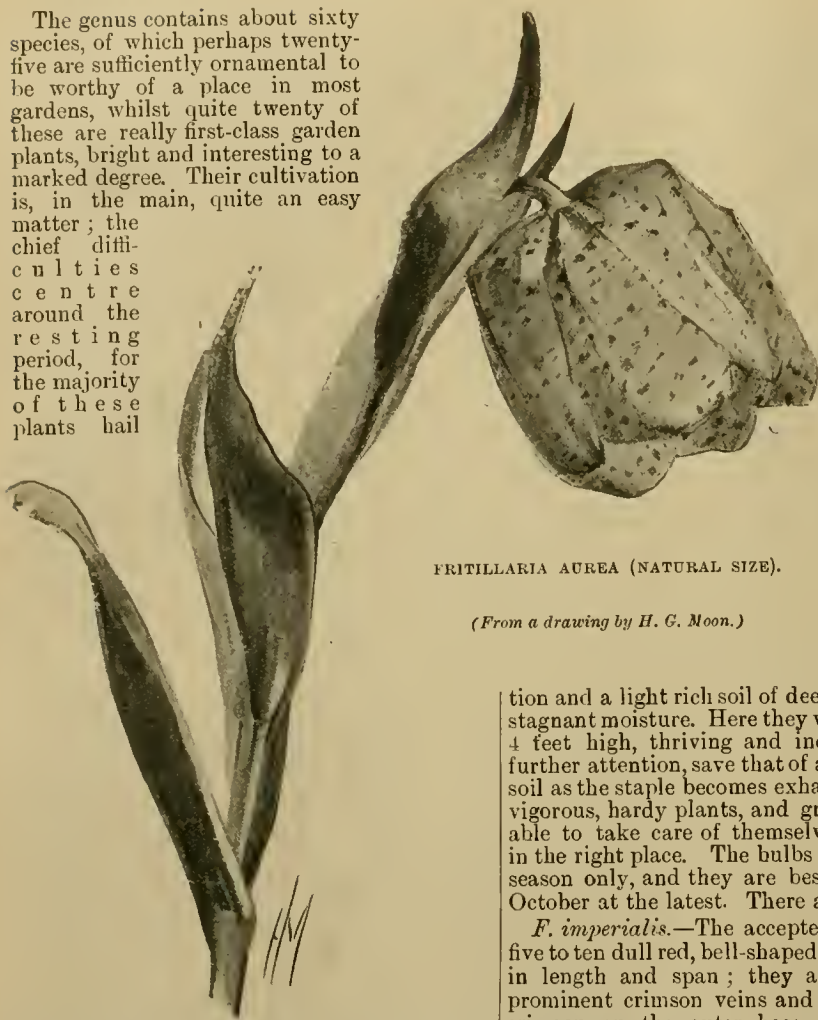
They are closely allied to the Lilies, both in bulb structure, floral structure, methods, and habit of growth, and their geographical distribution agrees with that of the genus *Lilium*. One might call them lesser Lilies, for whereas the ideal Lily is tall and graceful, we are satisfied with the more humble stature of the majority of the *Fritillarias*, and regard them fitted for rockeries, choice borders, woodland walks and glades, and meadow land. Their colours are mainly of the subdued order, requiring close inspection for the thorough appreciation of their quaint blends and unique chequered designs. A few of them, notably the largest and the smallest, are brilliantly coloured some shade of yellow or red.



A BUNCH OF MANGOES.

(The natural size of the fruit is as follows: The top right hand fruit measured, height 3½ inches, width 3 inches; left hand fruit, height 3½ inches, width 3 inches; bottom fruit, height 4 inches, width 3½ inches.)

The genus contains about sixty species, of which perhaps twenty-five are sufficiently ornamental to be worthy of a place in most gardens, whilst quite twenty of these are really first-class garden plants, bright and interesting to a marked degree. Their cultivation is, in the main, quite an easy matter; the chief difficulties centre around the resting period, for the majority of these plants hail



FRITILLARIA AUREA (NATURAL SIZE).

(From a drawing by H. G. Moon.)

from drier countries than our own, and the chief difficulty the cultivator has to face is that of keeping the bulbs sound and plump, yet dry in early autumn, or they will start to grow early in the winter and perish in the attempt.

As may be expected of a group of plants so widely distributed, cultural conditions necessary for the one are entirely unsuitable for the other, hence the need to group them according to their requirements, and it will be noted that most in each group have the same bulb formation. In the study of bulbous plants it is very important to note the bulbous rootstocks and their methods of rooting, for these will often convey as much information to the cultivator as if a visit had been paid to the place where they grew wild.

In the Lilies, bulb study is essential if one would grow them well. With *Fritillaria* this is scarcely less necessary.

GROUP I.—THE CROWN IMPERIALS.

This group has been considered monotypic until the recent addition of *F. askhabadensis*, a new species of

much promise. They are stout-growing garden plants, well suited for general border planting. Their bulbs average the size of a man's fist, the stems are markedly stout, and the flowers, generally six to eight, are borne in the axils of the lower whorl of the leafy tuft which surmounts the tall stem. They prefer a

warm position and a light rich soil of deep tilth, free from stagnant moisture. Here they will grow 3 feet to 4 feet high, thriving and increasing without further attention, save that of a dressing of rich soil as the staple becomes exhausted. They are vigorous, hardy plants, and gross feeders, well able to take care of themselves once planted in the right place. The bulbs rest for a short season only, and they are best planted before October at the latest. There are eight forms of

F. imperialis.—The accepted type has from five to ten dull red, bell-shaped flowers 1½ inches in length and span; they are marked with prominent crimson veins and zoned with dull crimson on the outer base. *Lutea*, a pale yellow-coloured form of similar proportions, and its double variety; *sulphurea*, a citron-yellow flowered form, with brick red or orange

basal tints, and *aurora*, a wavy petalled form of reddish hue, having a purplish sheen, are well-known inhabitants of our gardens. They are plants one could recommend for the wild garden or the informal border where similar old-time plants are allowed to grow and spread at will.

Of rarer and large flowered types, the magnificent *longipetala*, a full crimson flower 3 inches to 4 inches across, with broad, wavy, half-reflexing petals (figured in THE GARDEN, November 4, 1899), and *lutea platypetala*, with pale yellow, broad-petalled flowers, borne in fives on massive stems clothed with broad lustrous leafage, are two types representing a great advance on the old forms of a century ago. The plants are very strong, and make imposing clumps 4 feet high when planted in small groups of six to eight bulbs each. Their flowers, having long pedicels, are well removed from the ample leafage, in so much that the inflorescences span 10 inches in extreme diameter.

Crown upon Crown, an old Dutch form, having two distinct tiers of flowers, and the two variegated-foliaged forms—one variegated white, the other citron-yellow—and the variety *inodora*, a plant resembling the type, but devoid of the unpleasant odour too characteristic of the others practically close the list of the most distinct. The Crown Imperials are old-time garden plants of Oriental origin; they are inseparably associated with records of the earlier types of British gardens.

F. askhabadensis.—This is a new species recently figured in these columns. It received the Royal Horticultural Society's award of merit on March 25 last, and looks a promising plant. As shown at the Drill Hall it had several broadly campanulate, pale yellow flowers, shading to creamy white at the tips, somewhat in the way of the American *F. liliacea*. They averaged 1 inch in length and span, and were borne on longer and more flexible pedicels than is usual in this group. Judging from its native habitat and the high elevation at which the plants were found, it should prove perfectly hardy and easy to grow



A COLONY OF THE MEADOW FRITILLARY (*F. MELEAGRIS* VARS.).

in a soil not too rich in vegetable humus, but of this it is yet too early to speak with any degree of certainty. It is to be hoped that the plant may become plentiful.

GROUP II.—*F. LIBANOTICA* AND ITS ALLIES.

These are mostly strong-growing plants, ranging from 1 foot to 3 feet in height. Their foliage is glaucous; their flowers occur in the leaf axils and form a loose spike. Their bulbs are conical or nearly so, generally larger than a walnut. A dry warm border suits them well, planting the bulbs twice their own depth. They start to grow early in the year, but are rarely injured by spring frosts.

F. libanotica, a pyramidal plant of a glaucous hue, 2 feet high, bears twelve to twenty bell-shaped flowers under an inch in length and span. They vary in colour from creamy white to lilac, some of them are handsome, several are poor and badly coloured. The plants badly need re-selection before they can become popular.

F. pluriflora, a plant of similar dimensions, hailing from Western America, has pretty rose or rosy purple flowers, each above an inch across. They are broadly campanulate, and have a prominent green line down each petal on both surfaces. It was introduced about three years since, and has improved much under cultivation. With this plant, as with *F. libanotica*, a rigorous weeding out of poor-coloured forms is necessary, for these spoil the reputation of what are really good garden plants.

F. liliacea (Lindley), a Californian species, 1 foot high, bears a loose spike of from five to six broadly campanulate flowers $1\frac{1}{2}$ inches across, pure white with a green star-like nectary at the throat, covered with a sweet, viscid fluid. The bulb is composed of several clasping scales with leafy tips, much resembling the bulbs of *Lilium*, the number of scales agreeing with the number of stem leaves, viz., eight to ten. It is a very pretty plant of real merit and interesting botanically as the closest ally of the genus *Lilium* in the western world. A cool position on the rockery is all that is needed, and it will grow quite well in the plant border if it can be kept dry during the autumn. It is curious that this charming little plant should be so little grown.

F. camtschaticensis (Gaul.).—"The Black Lily" is a Siberian plant with whorled leaves, sparsely clothing a stem above a foot high like a miniature Martagon Lily. It bears several nodding, black-purple flowers, ranging from 1 inch to 2 inches across, tinted true purple on the margins, intensifying to a very dark purple, almost black, near the middle of each petal. The anthers are golden-yellow, and appear in vivid contrast to the black ground colour in the centre of the flower. A cool site on the rockery suits the plants best, but they are difficult—very difficult—to keep thriving for many years. I incline to the belief that this plant is naturally short-lived under any circumstances, agreeing with the choice Siberian *Lilium tenuifolium* in this respect. I have remarked that both these plants rarely make a good bulb after flowering well once.

F. Tuntasia (Heldreich).—A new species closely allied to "the Black Lily" in its flowers, grows 8 inches to 10 inches high, and bears from four to six intensely dark maroon

campanulate flowers about an inch across. The leafage is long and glaucous, and several growths proceed from the same bulb. One form I have under cultivation has flowers quite as dark as those of *F. camtschaticensis*. Its hardihood and value as a garden plant has yet to be fully tested, though the plants look promising enough.

G. B. MALLETT.

(To be continued.)

CLEMATIS MONTANA.

ONE of the earliest and most beautiful of our flowering climbers, this lovely Clematis should be in every garden. It can be put to every purpose that a beautiful rambling plant is capable of fulfilling. It will drape whole walls with sheets of bloom in May; it will run up trees and festoon them with clouds of its charming white bloom; it will cover unsightly buildings; it will roof and festoon whole

the conditions under which they grow on the mountains. Speaking from personal experience I remember well the failure of my first attempts to grow such easy plants as the Edelweiss. The first specimen collected on the La Dôle, on the French Jura, I brought, with a bag full of the rock on which it grew, and planted in a garden surrounded by high walls, but the tufts soon died, as well as other plants collected at the same time. My next trial with seeds collected on the same mountain later in the year and grown in the open proved far more satisfactory. Those alpine plants that grow on the Alps in altitudes of 7,000 feet to 8,000 feet are generally the more difficult to grow. The intermediate species and varieties grow in altitudes of 3,000 feet to 6,000 feet, and the sub-alpines, descending often to the plains, but still more often with a strictly alpine character. There are also those of the high and intermediate alpine, found in valleys brought down by the action of avalanches, whether by so-called snow, mud, or stone avalanches, and by the action of water of overflowing mountain streams, &c. They



CLEMATIS MONTANA. (From a photograph by Miss Willmott.)

arbours and pergolas. It has also another season of beauty, when in late autumn the feathery awns of its fruits make soft cloud-like masses that in many cases persist throughout the winter. It has also the merit of being a fast grower, and is easily raised from seed.

ALPINE FLOWERS AT HOME.—I.

THE popularity of the charming class of hardy plants known as alpine is quite of recent date, and not many years ago alpine—in fact, hardy perennials generally—were regarded by most people as weeds, and even at the present time they receive far less attention than they deserve. The number of hardy plant lovers is, however, still on the increase. At one time the culture of high alpine in the lowlands was considered impossible, but since we know more about them and their requirements, although we are unable to give them the pure mountain air, with few exceptions the greatest difficulties are well overcome. Nothing is more helpful in their successful culture than to study

are more often less difficult to grow, and easily amenable to lowland culture. The really difficult ones such as *Eritrichium nanum*, *Primula glutinosa*, and a few others I have never met anywhere else but in high altitudes, although there is no doubt that there are times when both seeds or plants of these are carried down by natural agencies to the valley, where, however, they soon perish.

Further north—for instance, in Norway—where unfortunately a less rich flora than in the Alps, Carpathians, or Pyrenees, vegetation is, of course, much restricted, and the same species found, say, on the Monte Rosa, Mont Blanc or Oertler in the highest altitudes, where plant life is still possible for a few months during the year; the same high alpine grow in much lower altitudes, until they are almost at sea level in countries approaching the Arctic zone. It is much to be regretted that explorers, travellers, and even mountaineers of note are not at the same time botanists or plant lovers with a general knowledge of plants. How much more interesting would the numerous books be, recently written by travellers, were they also to contain a good description of the flora and fauna,

Although an enthusiastic mountaineer myself, I feel sure I should not care for the highest, most difficult, and inaccessible mountain did I not also expect to meet some rare treasures in the way of alpine plants. Unfortunately, I have never had an opportunity of going beyond the Alps, Carpathians, Pyrenees, as well as the minor ridges, such as the Jura, &c. In my rambles in the Alps I have always had a decided preference for the Eastern Alps of Tyrol and Lower Austria as well as the Alps of Upper Savoy.

Switzerland is too much overrun, and to make it worse there will very soon be hardly a hill without a grand hotel and "Chemin de fer funiculaire," the abhorrence of, I should say, every true friend of Nature or mountains. The Eastern Alps, on the other hand, are still natural, and with their hospitable inhabitants—the finest of the Teutonic race—there is an immense variety of really pretty and interesting plants on the mountains, easily accessible in most cases without the help of guides, thanks to the efforts of the various branches of the German-Austrian Alpine societies, who have built refuge huts and made proper paths on most mountains up to 9,000 feet altitude. As many of the mountains of the Eastern Alps are less known to English people than those of Switzerland, the hunting ground of the English-speaking race, I shall start my description with such of those best known to me.

THE UNTERSBERG, NEAR SALZBURG, is easily reached—about three-quarters of an hour's walk—from the old city of Salzburg, at one time a German possession, now belonging to the Austrian Empire. The excessively moist climate of Salzburg (the popular saying is that it rains here every day in the year) is very favourable to some plants, and the meadows on either side of the road about mid-summer are ablaze with flowers. Most conspicuous are the terrestrial Orchids, such as the common *Orchis Morio*, the pretty pink *O. globosa*, *O. mascula* (the common *Man Orchis*), *O. maculata*, and the fine form *speciosa*, approaching the British *O. maculata superba*, but still not as fine, nor is the white form of *O. maculata* of such purity as we have had recently from Ireland. The sweetly scented *Gymnadenia odoratissima* and *conopsea*, with their long spikes of pink purple flowers, and the smaller *G. alba* are everywhere plentiful. The pretty but disagreeably scented *O. coriophora*, as well as the dull-coloured *Elder-scented O. sambucina* and *O. s. incarnata*, and the *Platantheras* are allied to the more showy *Habenarias* of North America, with greenish white flowers and rather tall growing. Both the interesting *Listera ovata* and *cordata* are very common, also *Epipactis palustris*, with its whitish or purplish flowers. The Western form grows in almost pure disintegrated limestone in wet places, but here it grows equally as well on meadows where limestone is wanting, showing how certain plants can adapt themselves to circumstances. After all I believe it is of greater importance for the growth of hardy Orchids to have certain plants about them which give shelter as well as food than soil, and owing to this fact alone many are unable to grow hardy terrestrial Orchids in their gardens.

G. REUTHE.

THE FRUIT GARDEN.

DISBUDDING CHERRIES ON WALLS IN SPRING.

THE work of disbudding such trees as the Peach and Nectarine on walls is now in full swing in most parts of the country, but it often happens that such trees as Cherries and Plums are left to themselves. I have only mentioned Cherries in my heading of this note, but much the same remarks apply to Plums. It often happens that the main branches or leaders are much too crowded, and disbudding is a great gain. Another point is that by removing useless wood early there is additional space for that left, which will allow

stronger growth and give larger leaves and better fruit. I would also point out that trees badly crowded are the first to become infested with black fly, one of the worst pests the Cherry is subject to, as when once it gains hold of the shoots it is difficult to get rid of. More shoots or growths will always be found on healthy trees than can be matured, and, though I am well aware they are often left, how frequently it happens that in after years such trees fail either through exhaustion or gumming and canker, owing to the knife having been used too freely to allow the crowded leaders more light or space.

A much greater number of shoots may with advantage be removed at this season with the finger and thumb than when cut out later on with a knife. At the same time I would not advise disbudding all at once, but do it piecemeal; indeed, I go farther than many growers, and I would not hesitate to thin the flowers also if necessary. Everyone knows that many growths are so placed that they are of little value. These may with advantage be removed at the start. In other cases, though more shoots are necessary than with the Peach and Nectarine, it must be borne in mind that by partial disbudding much labour will be saved later on. Even Morellos will benefit by removal of useless crowded growths. In all cases when thinning the shoots retain a strong growth at the base of a fruiting shoot, rub out others not required, and preserve a good growth above the fruit. In other cases some shoots are best left when close to the wall on main branches, and later on pinched back to form fruit-spurs.

G. WYTHES.

THE GOOSEBERRY.

(Continued from page 271.)

DISTANCE AT WHICH TO PLANT.

In the market garden the Gooseberry is usually utilised as a ground crop for the Plum, the Cherry, or the Pear orchard, succeeding perhaps better than any other fruit in the partial shade of the taller trees. In this case the distances apart at which the trees can be planted must be governed by the distances the permanent trees are planted apart. Supposing the latter are planted 12 feet apart, then three rows of Gooseberries could profitably be planted between them. When a quarter in the garden is devoted to their culture they should be planted in rows in a line from north to south at 4 feet apart and 6 feet between the rows. Planting against a trellis is an excellent way of growing late Gooseberries for dessert, as they can be netted over and effectually protected from the depredations of birds, thus lengthening the season in which Gooseberries can be had for dessert by several weeks. This period can be still further lengthened by planting cordons against a wall facing north, where they succeed well and where the variety Warrington may be, when netted over, preserved until well into the beginning of November.

CULTIVATION.

To obtain the best results the land should be liberally manured and bastard trenched, and it goes without saying that it should be properly drained. In the south the land in the coolest position of the garden or orchard should be selected, as hot shallow land is the worst possible position in which to plant the Gooseberry. A liberal mulching of manure should be applied early in the summer—this greatly helps the tree to carry and mature heavy crops. Should the grower be sufficiently ambitious to grow Gooseberries for exhibition then a corner of the garden should be set apart where trees of as many sorts as it is desired to have should be planted (on trenched and well manured land) 5 feet apart each way. The ground as far as the roots of the trees extend should have a mulch of short rich manure laid on, and the tree receive occasional waterings of weak manure water from the stable yard at intervals of a week or ten days in the summer until the fruit is fully developed; discontinue this before the appearance of ripeness sets in. The trees should be more severely thinned at pruning time than is usual at ordinary pruning—say, 8 inches space should be

left between each of the main branches. The tree should only be allowed to carry a light crop, the greater number being thinned off when small. Before the berries are ripe the finest should be selected and provision made to protect these from both hot sun and rain, otherwise there is a danger of their being disfigured by scalding or splitting. Gooseberry trees are at their best from six years to ten years old, being then a remunerative crop, especially when placed on the market in a green state, often realising from £30 to £50 per acre.

The cost of cultivation is not a serious item, as the most we have to do is to keep the land clean by hoeing in the summer, mulching with manure in winter, and in doing this a 5-pronged fork should be used, and the surface of the soil near the roots of the trees not be disturbed deeper than 3 inches or 4 inches.

The Gooseberry tree seldom suffers from disease, but occasionally from the attacks of the Gooseberry caterpillar and red spider. Prevention in this case, like many others, is easier and better than cure, and to this end, after pruning, all prunings should be cleared away and burnt, and a thin crust of the soil under each tree should be drawn away by the hoe and burnt with the prunings and the trees afterwards well sprinkled with quicklime and root in equal proportions immediately after a shower of rain or early in the morning when the dew is on the trees.

This generally succeeds in keeping the caterpillar at bay, and is more or less effective in preserving the buds from the depredations of birds during the winter. It is seldom that red spider attacks the Gooseberry, except when planted on thin, poor, and hot soils; the best remedy for this is to apply flowers of sulphur after rain.

VARIETIES.

These are innumerable. The following will be found amongst the best in their several sections:

Dessert.		
White	Red	Yellow
Bright Venus	Red Champagne	Golden Gem (New)
Lady Leicester	Red Warrington	Yellow Champagne
Snowball	Scotch Nutmeg	Langley Gage (New)
Whitesmith	Wilmot's Early Red	Yellow Sulphur
Careless	Crown Bob	Broom Girl
Jenny Lind	Ironmonger	Leader
Crystal	Speedwell	Goldfinder
White Champagne	Whinham's	Levellor
Industry		
Green		
Green Walnut	Early Green Hardy	Keepsake
Green Gascogne	Matchless	Random Green
Pitmaston Greengage		Stockwell

Best for Exhibition.

White	Red	Yellow
Whitesmith	Crown Bob	Levellor (Early)
Lady Leicester	Rifleman	Coiner
Lancer (Late)	Dan's Mistake	Ringer
Antagonist	Duke of Sutherland	Catherina
Nonpareil (Late)	Beauty (Early)	Criterion
Transparent (Late)	London	Stella
Peakman	Prince Regent	Trumpeter
King of Trumps	Lord Derby	High Sheriff

Green		
Keepsake (Early)	Shiner	Telegraph (Late)
Stockwell	Matchless	British Queen
Thumper	Green Overall	

The Best Varieties for Market, either for pulling green or ripe.

White	Green	Yellow
White Lion	Tom Joiner	High Sheriff
Antagonist	Thumper	Ringer
Lancer	Stockwell	Leader
Red		
*Whinham's Industry	Lion	Slaughterman
Lancashire Lad	London	Warrington

* This variety, taking it all round, is acknowledged to be the best market sort we have.

Best for Preserving or Bottling.		
Turkey Red	Red Champagne	Lion's Provider
Rough Red	Keen's Seedling	Ironmonger
	Warrington	

O. THOMAS.

Mr. Frank Cant.—This well-known rosarian has been elected a member of the Colchester Town Council. Mr. Cant lives on the hilltop at Braiswick, where many acres of Roses are grown, and at this season the indoor flowers are a refreshing picture.

SALVIA AZUREA GRANDIFLORA.

THIS is a very beautiful autumn-flowering *Salvia* for the greenhouse, and is often known in gardens under the name of *S. Pitcheri*, but it is merely a large flowered form of *S. azurea*, which was introduced from North America nearly a century ago. Cuttings root freely in March or April and make strong blooming plants by August or September, at which season it usually flowers, lasting a long time in beauty. *Salvias* are now very popular again as autumn and winter blooming greenhouse plants, and at Glasnevin Botanical Gardens the other day we saw the show house ablaze

this and several other kinds grow and flower along with the *Chrysanthemums*. All who like plants a little out of the common would admire *Salvia azurea grandiflora* and *S. leucantha*, which are quite as easily grown as is the more brilliant *S. splendens*.

F. W. BURBIDGE.

BOOKS.

The Book of the Rose.*—Those who grow *Roses* in a serious spirit, and especially those who grow for exhibition, will welcome the second edition of a sound book on *Rose* culture by this well-known rosarian. If some of us think that the author's view of the use of *Roses* is a somewhat narrow one, let us not complain of his book on that score. It is merely that the one aspect of *Rose* use and enjoyment appeals to him more strongly than any other, and that that aspect is the exhibitor's. To quote his own words: "In my estimation the value of the *Rose* is in the glory of its individual flower, and in these pages at least the idea is not the *Rose* for the garden but the garden for the *Rose*."

Cyclopedia of American Horticulture.†

—With the completion of this remarkable American work on horticulture, the "Nicholson's Dictionary of Gardening" of America, the labours of Mr. Bailey and all who have been associated with him come to an end. We have written of this work in reviewing the previous three parts, and with its completion we can congratulate all concerned in producing a work of inestimable value to gardener, botanist, or anyone with a desire to receive fuller information on horticultural subjects than afforded by mere handbooks and treatises. The scope of the work is as follows:

"Suggestions for cultivation of horticultural plants, descriptions of the species of fruits, vegetables, flowers, and ornamental plants sold

in the United States and Canada, together with geographical and biographical sketches." It is illustrated with over 2,000 original engravings, not always good and sometimes bad. *Maréchal Niel*, page 1564, might be labelled with the name of one or a dozen varieties and no one the wiser, and an opportunity has been lost of not illustrating some of the beautiful native flowers of the prairies and woodlands which are grown in the English garden. "Garden *Rhododendron* in bloom," page 1517, we had to look at twice to know what the figure represented, and many other instances it is possible to indicate. But it is

unkind to criticise a work so sound and thorough as this contribution to American horticultural literature, and in the present volume our curiosity is satisfied as to the way the *cyclopedia* was begun. We learn from the preface or "retrospect" that the editor has had this work under consideration for more than ten years, but its actual preparation has taken four years, and a list of every botanical and horticultural work in existence almost has been consulted. The assistant editor has devoted the whole of his time to the *cyclopedia*, with the assistance of other leading American authorities. In his "prospect" the editor says: "The book represents a living horticulture. It has attempted to account for the species that are actually in cultivation in the country rather than those that chance to have been described or pictured in other *cyclopedias* or in periodical publications. . . . The species are compared and contrasted as well as described. . . . The leading articles are signed with the name of the writer. Therefore is responsibility fixed and due credit given. More than 450 persons have aided in the making of the *cyclopedia*. . . . The actual writing on the *cyclopedia* was begun in January, 1899. A year had been spent in making indexes and collecting data. The proof of the letter Z was received December 31, 1901. On January 8, 1902, the *cyclopedia* office was vacated. It was a sad parting." Again we congratulate all concerned in the production of this excellent American *cyclopedia*. We consult it frequently, and welcome its completion as adding one more trustworthy reference work to those in existence. Horticulturists in America have reason to thank Mr. Bailey and his army of helpers.

Practical Botany for Beginners.*

—A useful abridgment of the larger "Course of Practical Instruction in Botany," keeping to the main types only. It is a condensed scientific treatise on vegetable structure and anatomy, with detailed instructions for preparing and observing specimens, with diagrams and other illustrations.

The Country Gentlemen's Estate Book, 1902.†

—This volume forms an extremely useful compendium of all the subjects relating to estate management in 480 closely printed pages, a remarkable book for its price. Besides the usual contents of such a manual, there are some good plans and illustrations of lodges and labourers' cottages, and there is, among much instruction in matters allied to the subject, a short chapter of unusual interest on charcoal burning, a detail of estate and house economy that is almost invariably neglected.

Report of the Nova Scotia School of Horticulture.‡

—It is satisfactory to see by such pamphlets as this report that good instruction is being given by practical experiment in this province of the Dominion of Canada. The report deals principally with the experimental stations for the growing of hardy fruits—Apples, Peaches, Cherries, Plums, &c. The illustrations show well grown orchard trees in fine bearing.

The Journal of the Royal Horticultural Society.§

—Few publications concerning horticulture are more welcome than this journal, which continues to improve, although at first sight improvement seems impossible. But the careful reader will notice little features added which show that the editor is determined to make this journal, with its now immense influence for good, practical and interesting, and "up to date." The commonplace notes we always read with more than ordinary interest, and those who love Grapes should read and take heed of the remarks about "Neglected Varieties of Grapes," a sound commonsense little article, extolling the virtues, and rightly so, of the delicious *Frontignans* and condemning the big watery bags called *Grapes*,

* "Practical Botany for Beginners." By F. O. Bower and D. T. Gwynne-Vaughan. Macmillan and Co., London. Price 3s. 6d.

† "The Country Gentlemen's Estate Book," 1902. Edited and compiled by Wm. Broomhall, London. The Country Gentlemen's Association, Limited. Price 5s. 6d.

‡ "Report of the Nova Scotia School of Horticulture." By Professor F. C. Sears.

§ "The Journal of the Royal Horticultural Society." April, 1902. Price (to non-Fellows) 7s. 6d. 117, Victoria Street, S.W.



SALVIA AZUREA GRANDIFLORA IN THE BOTANIC GARDENS, DUBLIN.

with *S. splendens* and with zonal *Pelargoniums*. *S. splendens* is now largely grown from cuttings or seed, and some of the new forms of it from German nurseries are improvements on the old type, bearing dense spikes of flowers 12 inches to 15 inches in length. There is also a form of *S. splendens* called *nanus* that is well worth growing. Another very charming and distinct *Salvia* grown in quantity at Glasnevin is *S. leucantha*, a hoary plant from Mexico, now bearing great branching spikes of its thick set velvety purple calices and white flowers. It was introduced in 1847, but is not often seen in ordinary collections.

Our illustration is from a photograph by Mr. George E. Low, which was taken in his own garden at Kingstown near Dublin, where

* "The Book of the Rose." By the Rev. A. Foster-Melliar. Macmillan and Co., London. 1902. Second edition. Price 6s.

† "Cyclopedia of American Horticulture." By L. H. Bailey, assisted by Wilhelm Miller, Ph.D., assistant editor, and many expert cultivators and botanists. Price 21s. net. Macmillan and Co., Limited.

and given such names as Gros Maroc and Gros Colman. There has been much of this praising of flavourless Grapes at the expense of the less pretentious and a thousand times more agreeable Sweetwaters and Frontignans. Dr. Cooke's contribution to the knowledge of "Fungus pests of the Carnation family" is important, and the coloured illustrations are decidedly helpful. Hardy fruits for Scotland are dealt with at length by Messrs. Donald Maclean (north), William Wright (central), and James Day (south). "Hybrid Orchids," by J. Gurney Fowler, treasurer of the Royal Horticultural Society, will please Orchid growers, but it is unnecessary to give a list of all the reprints of lectures delivered during a part of last year. They comprise such subjects as "Plant Diseases," by George Massee, F.L.S.; "Insecticides Experiments," by R. Newstead, A.L.S.; "Mangoes," by Charles Maries, V.M.H.; "A Public Horticultural Garden," by J. Forsyth Johnson; "Whole Fruit Preservation," by J. E. Austin; "Forests and Manuring Forest Trees," by F. E. H. W. Krichauff, J.P.; "Arbor Day," by E. H. Till; "May-flowering Tulips," by Herr Ernst Krelage; "Fruit Drying and Evaporation," by James Udale; and "Notes on Recent Research and Abstracts." The "Abstracts" are from current horticultural periodicals, and indicate the most interesting articles. A Fellow can turn to these pages and find perhaps an article upon the subject information is desired. It is unnecessary to again praise the editor, the Rev. W. Wilks, for adding another volume to the splendid series already published. Although many of the subjects treated of are extremely technical and therefore of small interest to many of the Fellows, there is a refreshing brightness about the journal; it is quite readable.

MISCELLANEOUS.

THE CHILDREN'S GARDEN

IN a home garden there is a good deal of diversity, and not a little that is pathetic, to be found in the plots given over to children. For the most part these are banished to some out-of-the-way corner, as much for the good of the children as for the comfort of their elders; for child experiments, such as the digging up of roots to see if they are growing, the puddling of miniature ponds and canals, the building up of "lovely" rockworks, do not always make for garden beauty. Let us never grudge or interfere with such innocent efforts, for have not we—children of larger growth—to go through similar passages before we learn the lessons which experience teaches. By every means in our power let the little ones, then, have some garden ground out of sight where they may dig to their heart's content and do no harm.

There is a good deal to be said on the other hand for such a children's garden as the illustration depicts—one that is subject to the same rule of order and care as the rest of the demesne, yet where the children may have a reasonable amount of liberty of choice in the planting, and of freedom, no less, in gathering of flowers. Nothing is more delightful to the child-heart than to tread closely in the footprints of the "grown-ups," and the children's garden may thus be made, by precept



THE CHILDREN'S GARDEN AT MELFORD PARK, SUFFOLK (THE RESIDENCE OF THE REV. SIR W. HYDE PARKER, BART.).

and example, a most valuable aid to the formation of the self-controlled character so inestimable in after life. The parental interest, the inculcation of kindly thought for others, the gentle persuasion to give up momentary gratification for the sake of future good, the training of the eye to see wherein lie the true lines of beauty; all these and many more give welcome opportunities, in which the children's garden may be the handmaid of the best kind of education.

WRITERS ON HORTICULTURE.

A CORRESPONDENT who reads all the penny horticultural weeklies sends us this impression of the supposed methods of some of their contributors.

HINTS TO YOUNG WRITERS.

GARDENING ARTICLES AND HOW TO WRITE THEM.

Recipe.—Take one catalogue, and, having selected your family, enumerate the varieties at length, serving up the catalogue descriptions with any variations that may occur to you—if you happen ever to have seen the plants so much the better, as a little extra warmth can then be introduced into the panegyric—and recommend them strongly, one and all, to the amateur's notice. Some catalogues contain such detailed lists that you will be able to make quite a nice long article of the useful practical order in this way, while with a really taking title, such as "Blue Beds," "A charming Crimson Concatenation," or "Easy Erigerons," a 500 word "fill-up" can be concocted with delightful quickness out of any plant list that gives colour, height, and time of blooming. This is a most useful recipe for general purposes, but I am not sure that you may not find another which I am now going to give you, more profitable, because the articles are capable of much greater extension; in fact, they can be continued indefinitely until you have used up all the material to be found in monumental compilations such as some of the great hardy plant firms are so kind as to issue to your unending convenience and advantage.

Recipe.—Take someone else's garden and walk round it at intervals (N.B. If you cannot manage this, that is, should there be no garden available

or it is a wet day, it will do nearly, if not quite, as well to turn over the catalogue pages at random, but be careful not to do so consecutively, especially should the list be alphabetically arranged), and after each walk compile a fervid description of all you have seen. Occasional inaccuracies in nomenclature are of no importance, provided you gush with sufficient eloquence over the loveliness of all you see, and a little comic relief, such as a gardener with stupid speeches in three or four local dialects, well mixed, will carry off any trifling error, such as a confusion between Tulips and Calochorti or the placiog of Saxifraga Rhei as a January bloomer, which may unavoidably crop up. The difficulty of presenting a consecutive plan of the garden, if you have never been in it, or it really does not exist, can be got over by visiting a different part of it on each occasion; this will guard against your filling bed A with exquisite, faintly fragrant Tea Roses during your February visit and presenting it as a glorious conglomeration of sky and fire (red and blue Salvias) when you next see it, in the March number.

Before I send these hints—which I hope may be the means of enabling you to earn a nice little sum without any necessity for knowing anything—let me suggest to you as suitable for strong recommendation to the beginner or amateur gardener a few things which usually prove of considerable interest and are a source of pleasurable occupation even to advanced horticulturists. When so much success is invariably the complete amateur's return it would be cruel of you not to advise him, on all possible occasions, to grow, for instance, the *Oncocyclus* Irises, all the tiny and rare Saxifrages, *Mutisia decurrens*, *Ostrowskya*, *Gentiana acaulis* (grows *everywhere*), the *Globularias*, the *Androsaces*, and such weeds for easy flourish and increase under all circumstances as the *Lanuginosa* Clematides and *Tropeolum speciosum*.

HARDY FRUITS IN SEASON.

APPLE BESS POOL.

THIS is a distinctly valuable winter and early spring Apple, either for dessert or kitchen use. It is in season from December to April, is of

medium size to large, conical in shape, skin yellow, and sometimes striped with red. It is easily recognised by the five knobs which usually surround the eye, and also by a swollen growth, which generally appears on one side of the very short stalk. Its flesh is white, juicy, and the flavour sweet. The variety is strong growing, and is more fitted for the orchard than for the garden. Unfortunately, it is not a consistent or a very free bearer, especially whilst the trees are young, but after they have attained to mature age it is no worse in this respect than many other good Apples under cultivation. The variety has one valuable attribute, viz., that it blooms late, and in consequence frequently escapes spring frosts, which sometimes prove so destructive to other sorts, consequently Bess Pool often bears a full crop when others are furnished with scanty ones. The variety should be represented in every good orchard, if only for the sake of this one distinguishing good quality. O. THOMAS.

APPLES FROM GLOUCESTERSHIRE.

My gardener is sending you a few Apples, as to the condition of which I should like your opinion. The Cox's Orange Pippin fruits I think good in flavour for the time of year—May—when you receive them. I am uncertain if we have others rightly named. I shall be glad if you will inform me. I feel more strongly every year that while a Cox's Orange is in season, and we have had abundance of them for the last six months, no other Apple can touch it, and I certainly should not if I had to plant again think of putting in any quantity of dessert Apples to come in after the beginning of November. We find our Apples keep much better for being moved into a well-ventilated cellar. I have put a pipe through the roof of the building with an air exhauster on the top. Since the sun has got round to the north I have raised the temperature of the Apple room. I should be glad to know if highly coloured fruit such as you see at autumn shows keep as well as their greener brethren? I fancy not. I hope the Apples will reach you in good condition, but they so soon go off when brought up out of the cellar; they are now quite free from wrinkles.

H. C. B.

[The Apples arrived in excellent condition, and we quite agree with your way of keeping them. Many Apples are spoiled by placing in a too dry room. We have not found any difference in the keeping of highly coloured and green Apples, but there may be something in it. We also endorse all you say about Cox's Orange: it is undoubtedly the king of dessert Apples, and your samples are very fine, especially for this time of year. The Apple marked Bismarck is Schoolmaster; Blenheim Orange is Dutch Mignonne. All the others are correct.—Eds.]

CORRESPONDENCE.

(The Editors are not responsible for the opinions expressed by their correspondents.)

AGAPANTHUS UMBELLATUS ALBUS.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—I have noticed a good deal of correspondence in THE GARDEN recently regarding the difficulty in flowering the above plant in England. In my travels in the southern hemisphere I have found it on the whole even freer than the blue type. I first saw it in New Zealand, and to me it was quite a new sensation, as I had never before seen the plant in bloom. I was greatly delighted with its fine effect in gardens. I found it abundant in Australia, and still a profuse bloomer. When I came to its native country—South Africa—I found it a leading feature in the gardens of the Cape Peninsula, its season of flowering at the Cape being December, January, February, and the early part

of March. These are the driest months of the year, the rainfall being trifling. The rains have now commenced, and soon the young growth will take place. The plant is neither deciduous nor semi-deciduous. That there should be varieties is not at all wonderful, as the plant seeds freely, and as far as observations have been made it appears seldom to throw back to blue. It is not known how the plant was introduced into cultivation, but is supposed to be an albino found by some farmer and taken into his garden, as has occurred on many occasions in regard to other plants, notably *Watsonia O'Brieni*, no doubt an albino of *W. rosea*, and the pure white *Nerine*, an albino, no doubt, of *N. sarniensis*. Why there should be any difficulty in England in flowering so free-flowering a plant as the white *Agapanthus* is difficult to comprehend unless it is the plants are small or the pots used are not large enough for so gross a rooting plant. It must have been observed that the number of flower-spikes thrown up by *Agapanthus* is small compared with the growths. I feel quite sure if the same treatment is given to the white variety that the blue receives the results will be quite equal. When I have looked at the large heads of bloom of the white *Agapanthus*, my thoughts have gone back to the market growers of Covent Garden who supply cut flowers. This plant might be useful to them, as each head would supply a multitude of flowers which (wired) would come in useful in bouquets, and several wired together would make a nice feature in wreaths, as the flowers are very lasting.

Throughout the southern hemisphere there are several varieties of the blue *Agapanthus*, early and late, dark blue and light blue. In the municipal garden of Cape Town there is a very late-flowering variety, which might be called "The Hen and Chickens *Agapanthus*." From the umbel rises a stalk with a second umbel, and from the sides come many small umbels, but the most curious of all is an *Agapanthus* from the Transvaal, where the flowers on the umbel hang down like the crystal ornaments around an old-fashioned crystal chandelier. This species is deciduous. At present there are only a few plants in Cape Town. After the war is over many may be collected, as it is a unique plant, and I think worth being introduced into cultivation.

PETER BARR, V.M.H.

Cape Town.

N.B.—Referring to *Nerine*, I understand Mr. Elwes has made a break in this family and has produced many shades of colour. On the slopes of Table Mountain, on the narrow ledges where the *Nerine sarniensis* grows, there are several shades, from almost white up to the rich colour of the species named. It is somewhat curious and interesting that *N. Fothergilli*, which is such a grand plant in England, is unknown as a wild plant here. I mention this as a subject of investigation in England relating to the history of its origin. Can anyone throw light on the subject? The name *Fothergilli* should make its solution easy.

PLANTING A RESERVE GARDEN.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—I have just got a new reserve garden (about half an acre), in which, as well as flowers, I want to grow fruit and vegetables, planting fruit trees such as Pears, Cherries, Apples, Raspberries, Strawberries, Potatoes, Violets, and Carnations. In the small greenhouse against a piece of the long south wall there are Grapes. The whole piece slopes to the south, but I do not know anything about fruit in a practical way, and should be obliged if you would tell me when to begin putting in these various things; the Violets and Carnations I know about. I also want to know if it would be possible to grow Muscat Grapes in the unheated greenhouse?

CARTOUCHE.

[Our correspondent does not inform us what

condition the half acre of land recently acquired for the growth of fruit, vegetables, and flowers is in; whether it is already under any sort of crop; and whether the crops intended to be grown are for sale or private use. The south wall spoken of, if not already furnished with trees, would be admirably adapted for Peaches and Nectarines. The best Peaches, which are named in the order of ripening, are Amsden June, Royal George, Stirling Castle, Violette Hâtive, and Mr. Gladstone. The best Nectarines are Early Rivers, Sir Charles Napier, Pineapple, Elruge, and Victoria. The Apricot would also succeed well on this wall, and the best variety to plant is the Moorpark. The amber-coloured Muscats will not succeed in the unheated greenhouse, but the Madresfield Court Black Muscat Grape would do very well under the care of some one having a rudimentary knowledge of Grape growing. It is one of the best flavoured Grapes we have, with a distinct Muscat flavour. We presume the piece of land is already intersected by walks. By the side of the whole of these walks, at a distance from them of 4 feet, we should plant fruit trees of one sort or another, and as we presume, from the position of the land being near the sea, that it must at times be exposed to high winds, we would suggest that dwarf bushes be planted in preference to any other form of tree as being less exposed to danger from



APPLE BESS POOL. (Original height 2½ inches, width 2½ inches.)

this cause. By the sides of the walks leading from north to south we would plant Apples, Plums, and Cherries at distances of 9 feet apart. By the sides of the walks leading from east to west plant Pears and the best of the Green Gage Plums, and on the cooler side of the garden the Morello Cherry would succeed well if planted in bush form. Raspberries, Strawberries, Currants, and Gooseberries—in fact, all bush fruit—would be better grown in the body of the garden by themselves, where they can be conveniently netted when ripe. The remaining part of the body of the garden could then be devoted to vegetables, choosing a warm position for a good plot of Tomatoes. This popular fruit would succeed well in the open garden in your climate. The 4 feet space between the fruit trees and the walks could be devoted to the growth of flowers, including Carnations, Violets, and all the most popular of our hardy plants and Roses. Arches could also be thrown over the walks here and there and planted with some of the many beautiful climbing flowering plants. The best time for planting fruit trees is at the end of October and during November. If the land has been previously neglected or badly cultivated, the ground should be trenched and well enriched with manure before planting takes place. If Strawberry runners are secured as early in the summer as they are formed, layered in small pots, and then planted in well-prepared and manured land in August, a good crop can be had the

following year. If these strong and early runners cannot be secured, the ordinary runners are planted. October is soon enough to plant these, but no fruit in any quantity can be expected until the second year. A list of the best varieties of hardy fruits for this sized garden can be given if desired.—*Eds.*

ANTS AND APHIDES.

[To the Editor of "The Garden."]

SIR,—In looking over some back numbers of THE GARDEN I noticed in the issue for July 14, 1900, page 34, a note from a correspondent, in which he says that he is inclined to believe the old theory that ants carry aphides about with them to fresh fields and pastures new. It may interest your correspondent, should this meet his eye, and other readers to know that in the summer of last year I discovered in the corner of a scullery (concrete floor with brick walls covered with plaster) a number of black ants, and among them were several fat wingless aphides. As there was nothing to attract the aphides to this spot it is only reasonable to suppose that the ants brought their captives with them from the garden. While on the subject of entomology the following fact may also interest your readers. A few weeks ago, on lifting a large pot in the garden, under which were some Shallots, I found a spider, which on being disturbed attempted to make off, carrying something. This on examination proved to be a wireworm.

South Wimbledon.

E. M. RYDER.

GARDENING OF THE WEEK.

FRUIT GARDEN.

INJURIOUS INSECTS.

BEFORE the crops of hardy fruit trees are safe from frost, insect pests, in the form of aphides, caterpillars, weevils, &c., have usually to be battled with. The most satisfactory way of dealing with these pests is to be on the alert, and on their first appearance to at once take stringent measures to eradicate them. This is at least a comparatively easy task when dealing with aphides of any description, compared to what has to be done after trees have become badly infested. Take the case of Plums, Peaches, Cherries, &c., for instance, that are invariably attacked by aphides of one or another species. If they are thoroughly sprayed with a solution of Quassia Extract warmed to a temperature of about 85° immediately after their flowering season, and subsequently once a week for some time, the trees and their crops will be kept clean and safe from these troublesome insects.

WOOLLY APHIS.

This is difficult to eradicate after trees have become badly infested, and in cases where the winter treatment has not proved to be wholly successful, warm weather will be found congenial to its increase. Although the cleansing of old standard trees is scarcely possible, no trouble should be spared to free bush or other garden trees. Therefore, soon after they are out of blossom, the matured wood of affected trees should be thoroughly scrubbed with a strong solution of soluble paraffin oil, taking care that it does not come into contact with the young wood and fruit. This should be followed up by forcibly syringing the trees with the same insecticide, and subsequently frequently examine the trees and dress affected parts with the above or spirits of wine by the aid of a brush. In bad cases the roots of trees are attacked, but they are best attended to when the trees are at rest.

THE PEAR MIDGE.

Of late years we have suffered considerably from this insect, and its attacks appear to have become more general during recent years, or at least we hear more about them than formerly, but a satisfactory preventive has not yet, so far as I am aware of, been found. As a means of checking

future depredations, all the affected fruits should be gathered and burned once they can be discovered by their unnatural shape.

APPLE BLOSSOM WEEVIL.

This small beetle lays its eggs in the blossom buds, from which in a few days grubs are hatched and commence to destroy the blossoms. It is usually most prevalent upon neglected trees and in badly cultivated plantations, for then the weevil is left undisturbed to hibernate during the winter in the crevices of the trees. Winter spraying of the trees with the caustic soda and potash compound, together with lightly turning the surface soil and applying dressings of chemical manures in spring, for which instructions have already been given, act as deterrents to this pest. At the present time it may be caught by spreading in the evening a sheet beneath the trees and sharply tapping the branches, while infested blossoms should be gathered and burned before the grub leaves them.

The Hendre Gardens, Monmouth.

T. COOMBER.

THE FLOWER GARDEN.

There is a lovely plant of the Bell-flower family called *Michauxia campanuloides* that I should like to recommend to all lovers of hardy flowers. In height it grows from 4 feet to 8 feet and the flowers are white, tinged with purple, and arranged in a pyramidal candelabra-like head, which gives it a very imposing appearance, and makes it most effective for mixed borders. It is a perennial, but I think the best results are obtained by treating it as a biennial, and the present is a good time to sow for flowering next year. If sown in a box, and the seedlings when large enough are potted up into small pots the plants will be ready to put out into their flowering quarters in the autumn. This year I am trying them as annuals, or nearly so, as I sowed in heat in December last and potted them on as soon as they were fit. They are now sturdy strong plants in 4-inch pots, and I anticipate seeing them in flower by the autumn. A warm sheltered border of deep moist rich loam is suitable for this valuable plant.

THE CORSICAN DAISY (*ERIGERON MUCRONATUS*), with its pretty pink flowers shaded white is another beautiful plant suited for the hardy flower border or the rock garden, and it remains in flower for a long time during the summer months. It is perennial, but flowers easily the first year of sowing. For shallow vases and for barrels it is most useful. The best time to sow it is in March, but if sown now in heat the plants will flower well in the autumn.

THE ARCTOTIS

is a Cape plant that, though of great beauty, is very little met with in gardens. A *leptorhiza* is the only one of which I have any experience, and this is a very useful annual that may be now sown in the open where it is intended to flower. It requires a dry warm spot, where then the rich orange-coloured flowers are produced in profusion. When the seedlings are up they should be well thinned out to allow each plant plenty of space to develop. There is a half-hardy annual *A. grandis* that has been sent out during the last few years, and from all accounts it is a very striking plant, but though I have attempted to germinate it two or three years the seeds have always failed.

HUGH A. PETTIGREW.

Castle Gardens, St. Fagans.

THE KITCHEN GARDEN.

THINNING THE CROPS.

ONE of the greatest mistakes made in the kitchen garden is overcrowding, and this applies to nearly every vegetable cultivated. It is far better to allow each plant sufficient space to develop, and especially does this apply to Peas and Beans. These, in nine cases out of ten, are sown and permitted to grow too thickly together, the consequence being the plants crowd each other and the yield is poor and of short duration. This work should be done as soon as the seedlings are sufficiently large enough to pull out, and all such crops as Onions,

Parasnis, Turnips, Beet, Lettuce, &c., should be thinned out twice. Keep the ground stirred between them with the Dutch hoe, and dust over the young growths frequently but lightly with fresh soot, which is not only one of the best stimulants to apply at this season, but will protect them from the ravages of birds and other pests.

GLOBE ARTICHOKE.

The best varieties have suffered considerably during the past winter in many places. Many of the old stools are so weakened that they will need much assistance to bring them back into a good condition. The soil which has been pointed over should be thoroughly stirred up with the draw hoe, the ground well mulched with stable litter, and drench the plants thoroughly with manure water in dry weather.

PARSLEY.

Continue to plant out the young plants raised in boxes under glass. To grow Parsley to perfection the ground should have been heavily manured and deeply trenched, using farmyard manure. The surface will by now be in such a condition that it can be raked down finely. Plant with a dibber 1 foot apart each way, and dust frequently with soot—the finest Parsley is produced in this way. Make small sowings at intervals of about three weeks in various parts of the garden.

ENDIVE.

Make small sowings about every ten days, but only sufficient for immediate use, as early sowings are certain to run to seed. Model and Moss Curled are very suitable for sowing at this season.

LETTUCE.

both Cos and Cabbage, should be sown frequently. Plant out spare plants from each sowing, so that no break is likely to occur. Water freely in hot, dry weather, a quick, crisp growth being thus ensured.

CARDOONS

should be sown at once in well-prepared trenches, adding plenty of good half-decayed horse manure, and cover with fine soil. Make small holes at a distance of 20 inches apart, placing three or four seeds in each. Cover to the depth of 1½ inches, and thin to one at a station when large enough. When more than one row is required allow a distance of 5 feet between each, and never let the plants suffer from want of water at the roots.

RUNNER BEANS.

Prepare trenches as for Celery as soon as possible after this date, allowing a distance of 10 feet between each, when, if left until towards the end of the month for receiving the seed or plants which have been raised under glass, the soil will be in a good workable condition. Great advantage is gained by raising the first batch in boxes and planting them out after being properly hardened. These will commence to bear much earlier than if sown in the open, and are practically free from frost and the attacks from slugs which often do much damage to these in the earlier stages of their growth. Best of All is the best and most prolific variety I am acquainted with.

Aldenham House Gardens, Elstree, Herts.

INDOOR GARDEN.

TREE CARNATIONS.

WHEN the pots are filled with roots they may be moved into 4½-inch pots, in which they may be allowed to flower if supplied with liquid manure occasionally when the pots are filled with roots. Use three parts turfy loam and one part leaf-soil, with the addition of charcoal and enough coarse sand to keep the whole porous. Pot the plants moderately firm and afford good drainage. After potting place the plants back in the frame and give them plenty of air until they are well rooted; then plunge in a bed of coal ashes in a sunny position out of doors. Plants propagated later should be repotted as they require it until placed in their flowering pots. Remove the tops of young growths. All plants intended to be kept for flowering should be placed in a cool, airy pit. Repot into larger pots at the end of this month or

early in June, after which they may be placed out of doors, plunged in ashes, and afforded protection against heavy rains.

MALMAISON CARNATIONS

that are coming into flower should be shaded from strong sunshine and have the flowering shoots neatly staked. If large flowers are required the buds should be thinned as soon as they appear. Abundance of air should be given them, and afford liberal supplies of liquid manure. A sharp look out should be kept for green fly.

LILIUMS.

The early-flowering bulbs of *Lilium auratum*, *L. lancifolium album*, *L. rubrum*, &c., may be brought indoors from cold pits. Later batches that are sufficiently advanced in growth should be top-dressed with rich fibrous loam and well-decayed manure in about equal parts. Plunge in a bed of coal ashes out of doors. Syringe the plants in bright sunny weather, and tie the stems to neat stakes.

THE CONSERVATORY.

Primulas and Cinerarias that are over should be cleared away, and Azaleas be removed into a warm temperature and kept well syringed until they complete their growth. The conservatory may be kept gay at this period by introducing plants of the show and fancy Pelargoniums, also zonal and Ivy-leaved varieties, Fuschias, Hydrangeas, Ericas, Begonias, Tuberoses, Lilioms, Coleus, &c. The rearrangement of the flowering plants in this house affords an opportunity to prune, cleanse, and tie the growths of all climbers.

BALSAMS.

Seedlings should always be repotted in time to prevent the roots from growing through the bottom of the pots. At each potting place the plants deeper than before, as they will root from the stem. Stopping and disbudding spoil these plants. They and *Celosia plumosa* and *Cockscombs* require a liberal treatment.

JOHN FLEMING.

Wexham Park Gardens, Slough.

USES OF BRITISH PLANTS.—II.

CRUCIFERÆ.

THIS order receives its name from the four petals standing crosswise; but as other flowers have four petals the four short and two long stamens must be looked for as well. No member of the family is poisonous, and many are edible. A pungent oil characterises several, as Mustard and Cress. I will take the genera in the usual sequence, or that in Hooker's "Students' Flora of the British Isles":—

Watercress (*Nasturtium officinale*) was familiar to the Greeks as *Kardamon*, being used as a salad and for its medicinal virtues, as it was also in the fourteenth century, then known as *Nasturtium aquaticum*. In Pliny's time it was regarded as efficacious for brain disorders, as insanity, the Greek name signifying "Head subduer." It was first cultivated in England in 1801. Its nutritive value depends upon the aromatic oil and mineral ingredients, in which it exceeds all other salad plants.

Wintercress (*Barbarea vulgaris* and *præcox*), formerly called *Herb St. Barbara*, hence the Latin name. It was formerly cultivated as a salad plant. It is eaten boiled in Sweden.

Hedge Garlic (*Sisymbrium Alliaria*) is readily known by its Garlic-like odour. It was formerly used as a green vegetable under the names "Jack-by-the-hedge" or "Sauce alone," and was boiled with meat. In Wales it is fried with bacon and herrings.

Rape, Colza and *Svedish Turnip* (forms of *Brassica campestris*, proper); Turnip and navew (*Sub. sp. Rapa*). Rape and Colza are grown for their oil in the seed, though often also as fodder plants. The oilcake made from expressed seeds is used as food and manure. Pliny speaks of turning the Rape into the Turnip (which he regards as a variety) by sowing the seed in a "cloggy" soil. A similar result occurs with Radishes and Carrots or that long-rooted forms occur in a loose, but short ones in a stiff soil.

The Turnip was known to the Greeks as *Gongulos*, "round," and seems to have been grown more for its supposed medicinal virtues than for food, though *Manlius Curius* was discovered by the Samnites, who tried to bribe him, cooking Turnips over his watch fire, which he said he esteemed more highly than their gold. It was cultivated through the middle ages, and probably introduced into England by the monks. It was much grown in fields in the sixteenth century; but the best, Gerarde says, were cultivated at Hackney in a sandy soil, and brought by women for sale at Cheapside. In the seventeenth century they were grown for cattle. The Turnip has no real amount of nourishment, over 90 per cent. being water, and more than that when boiled.

Cabbage, Cauliflowers, Kales, &c. (*Brassica oleracea*), found wild on our chalk cliffs. The cultivated forms are innumerable, though there are none wild. There are four types, viz., "Greens" or "hearting Cabbage," Kales with loose foliage, Cauliflower, and Broccoli, which have a hypertrophied inflorescence, and Kohl-Rabi with a Turnip-formed stem. It was well known to the ancients both as a vegetable and for its numerous supposed medicinal virtues. It was also pickled with vinegar. The "sprouts," probably flowering shoots, were also eaten. Gerarde figures a Cauliflower, but a very poor specimen apparently in his day (1597). Having been brought from the Mediterranean regions, where plants are sown in September and are perfected in spring, the Broccoli still follows this rule, whereas the Cauliflower pursues its course according to our climate, and matures later.

Mustard (black, *Brassica nigra*: white, *B. alba*).—Of these the former, with dark coloured seeds, grows in edges round the coasts, being often 4 feet or 5 feet in height, as in Cornwall, with stems three-quarters of an inch thick. This is the Mustard of the parables. It is said to grow taller than a man on horseback in Palestine. The white is a field weed having yellow-coated seeds. When ground up to powder and mixed with water the strong pungent flavour is evolved, so that the oilcake can only be used as manure. It is much cultivated about Wisbech for "Colman's Mustard."

GEORGE HENSLOW.

THE KITCHEN GARDEN.

BEET CHELTENHAM GREEN TOP.

FEW Beets are better than this if quality alone is considered, and no matter whether this last remark concerns vegetables or salads, quality alone should be the chief point. There are certainly more shapely roots than the Cheltenham Green Top, Pragnell's for example, but in my opinion it does not equal it in quality or the colour of the roots when cooked. Inferior roots of Cheltenham Green Top often result when the seed is sown in too rich soil or too early. In the southern part of the kingdom I find early in May quite soon enough to sow this variety, and about ten days earlier in the north, but even then much depends upon the soil if heavy or light. When the land is well cultivated excess of rank manures means coarse roots and loss of colour. This root when growing is not at all striking, having a green top, but the colour is a bright red when cooked, and the flavour very fine. For salad I do not know a better variety for colour and flavour. I have grown it for twenty years, and cannot find one to surpass it.

G. WYTHES.

SPRING CABBAGES FAILING.

For some seasons past the spring Cabbages have not, as it is called, "bolted," but this year I regret to say our losses are very great, and this experience is general. I am unable to account for such excellent varieties as *Ellam's Early Dwarf* failing, as so few have done so before, but no matter what the variety the same losses occur both with the earliest

sown and also the later batch. I am aware, too, early sowing promotes "running." We always sow twice or even three times so as to secure a good plant, but I fear the erratic season is in a great measure the cause of the plants running so badly as in our own case. The plants, owing to a mild early winter, made an early start, and the growth was severely checked by severe frost late in the winter. This I fear in a measure is answerable for the plants going wrong. This theory may not be the correct one, but the readers of THE GARDEN may be able to give a cause, as we cannot afford these losses.

G. C. N.

INSECT PESTS.

THE PEAR MIDGE.

MOST owners of Pear trees are familiar with the spectacle of the ground underneath the trees being strewn with fruits the size of marbles in the early part of June, and many will have noticed that the appearance of the Pears is not healthy but stunted, while the usual smooth roundness has given place to malformation, the surface being uneven or knobbed. This falling of the Pears is generally attributed either to the dryness of the season or to the unhealthy condition of the trees; or, if they bore a heavy crop the year before, it is put down to their exhausted condition. Of course, Pears do sometimes drop off for one or all of these reasons, but when the fallen Pears are malformed in the way just described it is fairly certain that the cause must be sought in the action of the Pear midge, and any doubt on the matter can be at once set at rest by cutting a Pear open, when the flesh will be found to be honeycombed by a light-coloured grub less than the tenth of an inch in length, and this grub is the larva of the Pear midge.

This larva has no legs, but can crawl and jump, and, when the Pear falls to the ground, the larvæ which have not let themselves down to the ground while the Pear was on the tree emerge from their dwelling and bury themselves in the surface soil, never above an inch in depth. This happens in June, and in the earth they remain till March. At what time they change into the pupal state is not certain, but the grubs remain in the soil for some time before they invest themselves in a cocoon, and remain in the larval state within the cocoon for some time longer before they become pupal. In March the fly—the fully developed midge—hatches out, with a body an eighth of an inch long and wings wide in proportion, while its legs, antennæ and ovipositor are all likewise very long. When the Pear blossom is in bud it pierces the unopened bud, either through the petals or through petals and calyx together, and deposits several eggs in the interior, which hatch very quickly, the minute larvæ instinctively making for the core of the embryo Pear, and so the life cycle is complete.

It will be seen from the above description of the life-history of the Pear midge that either in the larval or pupal stage it is lying under the trees within an inch of the surface of the ground from June until March. Where the ground between the trees is not grass digging the ground 4 inches or 5 inches deep and turning the soil right over would bury most of the midges so deeply that the flies would not be able to force their way to the surface in the spring. The efficacy of this treatment would be increased by a little treading down after digging, or by the heavy rains of autumn and winter. This practice continued for two or three years would pretty well exterminate the pest in the same way as the Gooseberry sawfly has been so successfully exterminated in some places. Another excellent remedy, and one which is very beneficial to the trees as well, is the application of kainit, at the rate of a ton to the acre, the latter half of June if possible, just before or just after rain. The kainit is slowly dissolved by the rain, or by the dews if it is on grass, and the caustic solution burns the bodies of the larvæ. The advantage of applying

the kainit as early as June is that the effect upon the larvæ is greater before they have invested themselves in their cocoons. Where the kainit is put on a grass orchard the grass should be cut very short previously. With dwarf trees of any sort a simple remedy would be the picking off and burning of all Pears seen to be infested before the larvæ have had time to mature and get to the ground, either in the Pears or out of them.

It has been observed that it is the early Pears, the blossom of which is usually early, which are most liable to be infested. The Pear most liable to it of any is undoubtedly Williams' Bon Chrétien, trees of which last year that were thickly-set with fruit at the beginning of June being almost bare of fruit by the end of the month.

In one district of Essex practically the whole of the Williams' crop was destroyed in this way, and where no steps have been taken to remedy matters the same may be expected again this year, unless climatic conditions are very unfavourable to the hibernation of the midge. Other Pears which are particularly liable to infestation are Beurré de l'Assomption, Marie Louise, Jargonelle, Pitmaston Duchess, and Souvenir du Congrès, which are all early Pears, and in shape something after the style of a Williams' Bon Chrétien, though this latter may be merely a coincidence.

This pest spreads very rapidly from one district to another, as the insects are well adapted for flying good distances, and thus it is of comparatively little use trying to get rid of the pest in one's own garden or orchard if a near neighbour's garden is infested with it and he makes no attempt to cope with it. This is remarkably demonstrated by its spread in the United States, where it is said to have been unknown until its discovery on a farm in Connecticut in 1880. ALGER PETTS.

NARCISSUS CORONATA.

THIS is a charming flower sent to me recently by Messrs. Barr and Sons of Covent Garden. It is a sturdy and bold flower, good in colour, and exceptionally so in form, one of the finest of its section. C.

SOCIETIES.

NATIONAL AURICULA SOCIETY. MIDLAND SECTION.

THE Midland Auricula growers had their field day on the 30th ult., and held a most satisfactory exhibition in the show house of the Botanical Gardens at Edgbaston. The fixture was favourable to bringing together growers from the North and South. The Rev. F. D. Horner brought some of his new flowers from his distant home in North Lancashire, and he also had as his floricultural squire the veteran Ben Simonite, of Sheffield, who came to assist in the judging; and from his high elevation at Todmorden, Mr. Thomas Lord brought some of the Auriculas he grows with so much success on that breezy upland. Mr. J. W. Bentley was there also from Stakehill, Manchester, where, with Auriculas, Tulips, and Carnations, he maintains the floral character of this the home for so many years of the late Mr. Samuel Barlow. I may say, incidentally, that Mr. Bentley has now probably the finest collection of Tulips in the kingdom, and he is making a distinct headway as a raiser of alpine Auriculas. From the South there went to Edgbaston Mr. James Douglas, with some of the finely-grown and bloomed plants he is in the habit of exhibiting, and Messrs. Phillips and Taylor, of Bracknell, Berks. Mr. R. Dean, in the capacity of judge, represented the South.

The exhibition was gratifying because, though only the third held by the society, it was considerably larger than that of last year, and the quality of the bloom generally, I thought, exceeded that of the London show. The entries in

the classes for show and alpine Auriculas were much more numerous than was expected. The examples of gold-laced Polyanthus were much superior to those seen in London, and there were some charming baskets of species and varieties of Primulas; and in one, that from the nurseries of Messrs. J. Pope and Sons, at King's Norton, were some very attractive hybrids shown as *P. ciliata* (?), but probably the results of using *P. viscosa* or *P. pubescens* and the show or alpine Auricula as parents. The opening ceremony was performed by one of the patrons of the society, Mr. Alderman Lawley Parker, who complimented the committee on their exhibition, and alluded to the adaptability of the Auricula for culture in towns by working men, many of whom in the great industrial centres about there grew a few plants in pots in a back yard. It was stated that the culture of the Auricula in pots had so extended in the Birmingham district that many little shows were held during the Auricula season.

At the luncheon which followed the opening ceremonial, at which Mr. John Pope presided, attention was called to the protrusion of the pistil in some of the newer varieties of alpine Auriculas, and it was mentioned that one exhibitor had, in the case of two or three plants of a particular variety, removed the pistil, not with the intention of deceiving the judges, but in order to raise the question as to the lawfulness of the practice. There was a very animated discussion on the eligibility of "pin-eyed" flowers to compete. Under the old practice of exhibiting in the North, the presence of the pistil among or above the anthers had always led to disqualification, and now there were so many fine Auriculas *minus* this defect it was held some action was necessary. Eventually the following resolution was passed without dissent: "That in the opinion of this meeting of members, exhibitors, and judges at the third annual exhibition of the Midland Section of the National Auricula Society, it is highly desirable the old rule—that a pin-eyed flower (that is, a flower in which the pistil appears above the base of the anthers)



NARCISSUS CORONATA (REDUCED).

is a disqualification on the exhibition table—be earnestly affirmed and enforced for the future at the exhibitions of the Midland branch of the society." As this resolution was supported by such leading supporters of the exhibitions of the Northern Section of the National Auricula Society as the Rev. F. D. Horner, Messrs. Richard Gorton, T. Lord, B. Simonite, and J. W. Bentley, this resolution will certainly be enforced also at Manchester. It now remains to be seen what action in reference to the matter will be taken by the representatives of the Southern Section, who have hitherto been a little lax in the admission of pin-eyed flowers to competitions. It is desirable that the South fall into line with the Midlands and the North in order to secure uniformity of action.

Show Auriculas.—In the competitive classes the principal one was for six show Auriculas, and Mr. J. Douglas, Bookham, was placed first with finely grown plants of Chloe and Mrs. Henwood, green edged; George Lightbody and Olympus, grey edged; Mrs. Dodwell, white edged; and Ruby, self. Mr. Thomas Lord, florist, Todmorden, came second, he had Abraham Barker and Mrs. Henwood, green edged; George Lightbody and Richard Headly, grey edged; Acme, white edged; and Ruby, self. With four plants Mr. Thomas Lord,

Todmorden, was placed first, he had Abraham Barker and Mrs. Henwood, green edged; George Lightbody, grey; and Acme, white, all very good. The Rev. F. D. Horner, Kirby Lonsdale came second, he had of his own raising Belle-rophon, a bright green, and Rev. F. D. Horner (Simonite), green edged; Loveliness, a dark self; and Favourite, a beautiful rich purple self, both raised by Mr. Horner. Mr. J. Douglas, was third, having Abraham Barker, green edged, in fine character. With two plants, the Rev. F. D. Horner was first with Undaunted, a bright green edged; and Eurydice, a dark self, both of his own raising. Mr. W. H. Midgley, was second, he had a very pleasing white edge, raised by himself, and named Letitia.

In the single plant classes, the best green edged, in the order of merit, were Abraham Barker, Shirley Hibberd, and Mrs. Henwood; grey edged, George Lightbody, George Rudd, and Marmion; white edged, Modesty and Horner; new, Morna and Heather Bell; selfs, Challenger (Horner), rich ruby-red, Gerald, and Artemis (Horner), violet. The premier show Auricula was Horner's Favourite, self.

Alpine Auriculas.—These were numerous produced, and generally in excellent character. Mr. J. W. Bentley was first with six varieties of his own raising, viz., Aglaia, Mrs. Lord, Attraction, Mary Bentley, Coronet, and Olivia; Mr. J. Douglas was second with Golden Disc, a striking variety on account of its brilliant golden centre; Stella, Firefly, J. F. Kew, Ziska, and Duke of York; Mr. A. R. Brown, Handsworth, was third. Mr. J. Douglas came in first with four varieties, having Firefly, Dean Hole, Duke of York, and Ziska; Mr. J. W. Bentley was second, and Mr. Brown third. Mr. J. Clements was first with two varieties, he had Mrs. Martin R. Smith, and Winnifred; Mr. J. Goodwin was second. The best golden centres were Mrs. Gorton, Duke of York, and Ziska; the best white centres, Modesty, Mrs. H. Turner, and Blue Bell. In the class for two plants shown by maiden growers, Mr. R. C. Cartwright came first, with Dean Hole and Firefly. The premier alpine was Aglaia, shaded with bright rose, from Mr. Bentley.

Certificates of merit were awarded to the following novelties: Chloe, green edged (J. Douglas); Letitia, white edged (W. H. Midgley), with Favourite, Nigella, and Erebus, three fine selfs shown by the Rev. F. D. Horner. Mr. J. W. Bentley was the only exhibitor who obtained certificates of merit for new varieties of alpinæ; he was fortunate with Aglaia, Mrs. Lord, and Attraction.

Gold-laced Polyanthus.—Messrs. Pope and Son were placed first with four plants having in good character Exile, Cheshire, Favourite (2), and George IV. Mr. J. Stokes was second, having Miss Turner and Middleton Favourite, distinct from Messrs. Pope's varieties. The latter had the best specimen in George IV., and Mr. Stokes was second with the same.

ROYAL HORTICULTURAL SOCIETY.

IN spite of the cold and unfavourable weather of last week and the early part of this week, the Drill Hall was again well filled on Tuesday last. Flowering shrubs in variety, hardy flowers, and Orchids were all numerous represented. The gold medal was given to the choice display of Orchids exhibited by H. T. Pitt, Esq. No less than three awards of merit and one first-class certificate were given to Orchids in this group. Fruit and vegetables were sparsely represented.

ORCHID COMMITTEE.

Present: Messrs. Harry J. Veitch (chairman), James O'Brien, Jeremiah Colman, de B. Crawshaw, H. M. Pollett, Frank A. Rehder, Walter Cobb, H. Little, James Douglas, N. F. Binley, H. T. Pitt, T. W. Bond, J. W. Odell, F. J. Thorne, G. F. Moore, W. Boxall, W. H. White, W. H. Young, H. A. Tracy, J. Wilson Potter, F. Sander, and H. Ballantine.

H. T. Pitt, Esq., Stamford Hill (gardener, Mr. Thurgood), displayed a group of interesting and choice Orchids in great variety. Included amongst many beautiful things were Cattleya Schroederei heatonense, C. schilleriana Pitt's var., Cypripedium lawrenceanum hyeanum, Dendrobium rhodopterygium, several choice Odontoglossums, and others. Some of the flowers in this group received awards of merit, and are noticed at length elsewhere. The Orchid committee awarded a gold medal to this splendid display.

Sir Frederick Wigan, Bart., Clare Lawn, East Sheen (Orchid grower, Mr. W. H. Young), exhibited an excellent group, consisting of Miltonias principally. M. vexillaria cheloniensis, M. v. Empress Victoria Augusta, M. v. alba, as well as plants of the type, were finely in flower. Others included in the group were Aerides Fieldingii, Cattleya Mossiae, Odontoglossum ruckerianum, Cypripedium lawrenceanum, C. niveum, C. bellatulum, Cymbidium devonianum, &c. Silver Flora medal.

Messrs. James Veitch and Sons, Limited, Chelsea, displayed a showy lot of Orchids, chiefly consisting of Lelicia, Cattleyas, Cattleyas, and hybrid Lelias. Noticeable were Lelicia-Cattleya hyeana, L.C. Aphrodite alba, Cattleya Mendelii var. Aurora, C. Schroederei, C. Mendelii, Lelicia purpurata alba, Lelicia x Latona, Lelicia digbyano-purpurata, and Cattleya Niobe; Masdevallia veitchiana was also well shown. Silver Flora medal.

Messrs. Hugh Low and Co., Bush Hill Park, Enfield, showed a group of Orchids, which included a splendid plant of Cattleya Skinneri, Lelicia tenebrosa, Cattleya intermedia alba C. Schroederei var. Phyllis, C. schilleriana Regnellii, Odontoglossum Hallii, Cattleya Mossiae, Cymbidium eburneo-Lowii, and others, all excellent forms. Silver Banksian medal.

Sir Trevor Lawrence, Bart., Durdod, Dorking, exhibited Lelicia Pacavia (a beautiful flower, the result of a cross between L. tenebrosa x purpurata), Dendrobium Ethel (japonicum x Rolfe roseum), and Maxillaria fracticola (Rchb.), which gained a botanical certificate.

Norman C. Conkson, Esq., sent Cattleya Jupiter, C. lawrenceana x C. Warszewiczii.

Lelicia-Cattleya General Baden Powell (L. grandis tenebrosa x C. lawrenceana) was shown by J. E. Vanner, Esq., Camden Wood, Chislehurst (gardener, Mr. W. H. Robbins).

Baron Schröder, The Dell, Egham (gardener, Mr. Ballantine), was awarded a silver Banksian medal for a group of *Odontoglossums*. These were remarkably fine, and comprised *O. wilckeanum* var. *giganteum*, *O. harringtonianum* var. *crispum* Duchess of York (award of merit), *O. triumphans* var. *Dellense*, *O. andersonianum* var. *Dell* var. *O. excellens*, and *O. triumphans* var. *latiseptalum*, *Cypripedium lawrenceanum* var. *hyanum* was also shown.

H. F. Bischoffheim, Esq., The Warren House, Stanmore, showed *Cattleya Mossiae*, Warren House variety.

Jeremiah Colman, Esq., showed *Cattleya louryana*.

Laelia × *cinnabarosa* Tring Park var. was sent by the Hon. Walter Rothschild, Tring Park (gardener, Mr. E. Hill).

Messrs. B. S. Williams and Son, Upper Holloway, N., exhibited a miscellaneous group of Orchids, which included *Cattleya Mendeli*, C. Mossiae, *Odontoglossum Uro-Skinnerii*, *Cypripedium lebanianum*, *Odontoglossum nevium* majus, *Trichopilia suavis*, and other good things. Silver Banksian medal.

AWARDS.

Odontoglossum crispum Pittie.—A beautifully marked variety of excellent form. The flower is of medium size, the ground colour milk white, the reddish purple markings upon sepals and petals forming an irregular ring. Exhibited by H. T. Pitt, Esq., Stamford Hill (gardener, Mr. Thurgood). First-class certificate.

Dendrobium Ethel.—A flower of delicate beauty, obtained by the crossing of *D. japonicum* and *D. Rolfe* roseum. The sepals and petals are white, except that the ends of the latter are tinged with lilac. The base of the lip is also marked with the same colour, and below the column is a mass of pale green. Exhibited by Sir Trevor Lawrence, Bart., Binford, Dorking (Orchid grower, Mr. W. H. White).

Odontoglossum Harry-crispum var. *Duchess of York*.—The sepals and petals of this flower are heavily marked with light chocolate-brown, their apices being white. The flat lip is prettily marked with dull purple, its base being white. Exhibited by Baron Schröder, The Dell, Egham (gardener, Mr. Ballantine). Award of merit.

Odontoglossum triumphans latiseptalum.—The broad sepals and petals of this variety are tipped with green, the remaining portion being chocolate-brown. The marking on the petals is slightly relieved by streaks of white at the base. The lip is white, heavily marked with a light chocolate. Exhibited by Baron Schröder. Award of merit.

Disa Luna.—The parents of this hybrid are *D. racemosa* and *D. Veitchii*. The flowers are very attractive, a beautiful soft rose colour throughout. Exhibited by Messrs. James Veitch and Sons, Limited, Chelsea. Award of merit.

Odontoglossum Halli Queen Alexandra.—A flower of striking appearance. The sepals are of a very deep chocolate colour with green tips; in the petals the same colour predominates, although it is relieved by yellow. The lip is yellow, marked with deep red. Exhibited by H. T. Pitt, Esq. Award of merit.

Odontoglossum crispum Fairy Footsteps.—A large and pretty flower. There were only seven flowers on the raceme, but these were of such a size as to make quite a good display. The sepals and petals are broad, almost white, the petals being slightly marked in the centre with red. Exhibited by H. T. Pitt, Esq. Award of merit.

Odontoglossum hystrix Secundum Nulli.—A distinct flower of bold appearance; the flowers stand directly away from each other on opposite sides of the stem, thus detracting from the appearance of the raceme. The sepals are deep chocolate, with pale greenish yellow tips, the petals being less heavily marked. The heavily-fringed white lip is marked with red. Exhibited by H. T. Pitt, Esq. Award of merit.

Cattleya Mossiae Arnoldii Westfield, var.—This is a large and beautiful flower. The petals are broad and drooping. The lip also is large, prettily marked with purple this colour and yellow intermingling in the throat. Exhibited by F. Wellesley, Esq., Westfield, Woking. Award of merit.

FRUIT COMMITTEE.

Present: Messrs. G. Bunyard (chairman), H. Balderson, Joseph Cheal, M. Gleeson, S. Mortimer, Alex. Dean, Edwin Beckett, W. Pope, George Kell, G. Reynolds, C. G. A. Nix, G. Norman, H. Somers Rivers, James H. Veitch, Henry Esling, F. L. Lane, W. Bates, O. Thomas, and J. Jaques.

From the Horticultural College, Swanley, Kent, was sent a collection of Strawberries, the fruits were both of good size and colour. Silver Banksian medal.

Lady Plowden, Aston Rowant House, Oxon, was given a cultural commendation for a basket of Lemons.

Messrs. R. Veitch and Sons, Exeter, showed Radishes Great Northern, Great Western, and Great Eastern. Vote of thanks.

Messrs. Carter and Co., High Holborn, showed Radish Icicle.

Messrs. W. K. Rowe and Son, Barbourne Nurseries, Worcester, showed Apple Edward VII.

Messrs. James Veitch and Sons, Limited, Chelsea, exhibited two splendid fruits of Cucumber Challenger.

FLORAL COMMITTEE.

Present: Mr. W. Marshall (chairman), and Messrs. H. Turner, C. T. Drury, Geo. Nicholson, R. Dean, J. F. McLeod, J. Jennings, James Hudson, William Howe, J. A. Nix, C. R. Fielder, Charles Dixon, R. W. Wallace, Herbert J. Cutbush, Charles Jeffries, C. E. Pearson, Charles E. Shea, H. J. Jones, W. P. Thomson, E. H. Jenkins, W. J. James, George Paul, R. C. Notcutt, J. Fraser, E. T. Cook, and Edward Mawley.

There was much beauty and interest in the plants and flowers shown at the Drill Hall this week, and, as usual, a good deal of attention was directed to the hardy flowers of spring. Messrs. Storrie and Storrie, of Dundee, had a notable display of their fine border Auriculas and Polyanthus, the former perhaps receiving far the larger share of praise. Messrs. Storrie had a delightful series of the self-yellow class of Auriculas, and for boldness of truss and large flowers they hold a first place. For example, such as

Goldfinch, Polaris, Juno, Venus, Victoria, Cyclade, and others are all good yellows of light, intermediate, or deep shades, and surrounded with a strong white meal or paste in the centre are most attractive. Some good Polyanthus were shown, but these were not so good as other types known to us. The same firm also showed their strain of Albino Kales. Silver-gilt Banksian medal.

Messrs. William Cuthbert and Sons, Highgate, set up a group of Carnations, Tree Peonies, Azaleas, and the like. In the former we noted the fine self yellow Cecilia, very good; Boadicea, excellent scarlet; Winter Beauty, free and dwarf, together with many of the Malmesbury section, bearing good and handsome flowers. In the midst of a generally attractive group a fine array of Tree Peony Reine Elizabeth was noted. This is of a fine cerise-scarlet tone, the flowers very double, and full and extremely showy. Silver Banksian medal.

Mr. H. J. Jones had a fine array of Tulips, mostly of the select bedding class, together with large attractive masses of such as Picotee, and the pretty yellow *T. retroflexa* and others. Then boldly in front was *La Noire*, one of the near approaches to the so-called black Tulips, the colour being a dark maroon or shade akin.

Messrs. J. Laing and Sons showed a few pots of Clematis, such as Henry, Princess of Wales, *langinosa candida*, and small examples of *Andromeda speciosa*.

Messrs. Paul and Sons, Old Nurseries, Cheshunt, showed the beautiful Tea Rose Mrs. Berkeley in superb form, a trio of magnificent flowers that would be difficult to surpass any day in the year. Unanimous vote of thanks.

Messrs. Jackman and Sons, Woking, sent one of their most charming exhibits of hardy alpines, arranged in an artistic as well as natural way that commanded attention at once. We do not pretend to mention all the plants shown, but a few of the best or more conspicuous were *Gentiana verna*, *Onosma lanica*, *Lithospermum canescens*, *Dianthus neglectus*, *Myosotis rupicola*, *Ranunculus pyrenaica alba*, which with the type was very finely done; *Primula japonica*, *Androsace villosa*, *Ranunculus amplexicaulis*, with satiny white flowers, the pretty *Oxalis enneaphylla*, and a double Snowdrop *Aconitum*, were some of the best. Then in the midst of all we noted a fine lot of *Cypripediums*, as *speciosa*, *pubescens*, *Calceolus*, *acaulis*, *occidentale*, that with *Blechnum* and *Habenaria* formed a very welcome exhibit. Silver-gilt Flora medal.

Messrs. Carter and Co., Holborn, staged a large group of *Cineraria stellata* in colours, the plants well flowered and attractive. This strain promises to be of considerable importance for decoration. Silver Banksian medal.

Mr. C. Turner, Slough, had a fine exhibit of well-flowered pans of *Primula Sieboldi* in variety, the more prominent shades being represented by Victor, red; Queen of Whites, Mr. Ryder, pink and white; Mrs. Crossland, pink; albamagnifica, Harry Leigh, lilac; Novelty, a fringed white, &c. Side by side were some seedling alpine Auriculas, some rather promising, but yet hardly up to the old-time standard. In the show kinds, such as grey and green edges and so on, we noted some choice things, such as Rev. F. D. Horner, Blin Peter, Duke of Argyll, Mrs. Pott, and others. Silver Banksian medal.

Messrs. Hugh Low and Co., Enfield, showed excellent Malmesbury Carnations, such as Princess May, Prime Minister, Lord Rosebery, rich scarlet; Calypso, a deep shade of bluish; together with Mrs. Thomas W. Lawson, of the Tree section, flowers deep rose-pink; and Miss Ferguson, a pure white Tree Carnation, very free and profuse flowering, the petals slightly notched at the margin. *Schizanthus wislizenis grandiflorus* and many Heaths, Palms, and the like were also set up.

Maréchal Niel Roses were shown by Mr. J. Walker, Thame, Oxon, in quantity, the blooms of nice quality and medium size. Silver Banksian medal.

Perhaps one of the most striking exhibits in the Drill Hall were the St. Brigid Anemones from Messrs. Reamsbottom, King's County, Ireland. The flowers of this famous strain are of great size and stature, marvellous in their endless colouring and superb in the unique quality of the flowers. Need we say more than this? If so, it is to express the hope that such wealth of beauty may be more often seen in English gardens than is the case to-day, though we cannot give the humid and rich soils of Ireland that these lovely flowers so much appreciate. A silver-gilt Flora medal was awarded.

A very interesting collection of hardy Ferns came from Mr. H. B. May, Edmonton, in which we noted sets of varieties of several things, for example the Polypodies were represented by P. *Phlegopteris*, as well as three varieties of *P. vulgaris*, *i.e.*, *cambricum*, *elegantissimum*, and *pulcherrimum*; these were all distinct and good. *Adiantum Capillus veneris* magnificum, one or two finely crested Hart's-tongue, and a greater variety of the crested forms of *Athyrium filix-femina* in all the delicacy of their early spring attire. In this last lot we were pleased to note *A. f. cristata angustata*, a kind that will produce its nearly linear fronds to a length of 2½ feet or 3 feet. The group was most interesting. A group of zonal *Pelargoniums* was also shown. Silver Banksian medal.

Messrs. F. Cant and Co., of Colchester, set up a magnificent lot of cut Roses in boxes, in which quite a host of new kinds figured. Quite apart from the novelty, the blooms were of the highest exhibition quality, and in not a few instances were simply superb. A vase of Lady Roberts was very fine, and then of new kinds we must mention Muriel, a fine deep pink and superb form; Mme. Ravary, a soft apricot shade, a lovely Rose; Mrs. F. Cant, soft pink, very full, Mr. Edward Mawley, together with Maman Cochet, Marchioness of Londonderry, Cleopatra, Ulrich Brunner, and many others. Those named were indeed as good as need be shown, and reflect the highest credit on the skill of the cultivator. Silver-gilt Flora medal.

Mr. Anon Perry, Winchmore Hill, showed hardy plants in his usually charming way. *Lithospermum canescens* was very fine; *Iris atropurpurea* double white Arabis, *Cypripedium pubescens*; *Iberis perfecta*, a very white kind in the way of *superba*; *Auricula Alexandra*, yellow; *Dodecatheons* in variety, *Fritillaria recurva*, *Haberica rhodopensis*, very

choice, *Phlox amœna* and *P. Nelsoni*, *Trollius*, and the bolder things in flower. Silver Flora medal.

A beautiful lot of flowering shrubs came from Messrs. J. Cheal, Crawley, such as *Amelanchier*, *Exochorda*, several *Pyrus*, such as *P. Malus floribunda*, *P. baccata*, pink and white; *P. nitida*, white; *Spiraea arguta*, the curious *Akebia*, *Eleagnus longipes*, and many more full of beauty and interest in their great variety and profusion. Silver Flora medal.

Messrs. John Waterer and Sons, Bagshot, Surrey, had a fine bank of *Acer*, mostly of the palmata and japonica types, the plants in their delicate beauty having a beautiful effect. *Rhododendron George Hardy*, nearly white, was also well shown. Silver Flora medal.

Messrs. Veitch and Sons, Limited, Chelsea, had a large group of *Primula japonica*, some sixty pots in bloom, a fine bank of the double German Wallflowers in rich yellow and golden shades mostly, together with a host of pans filled with varieties of *Myosotis*, of Wallflowers of a dwarf strain, *Aubrietia*, the pretty *Nepeta Glechoma fol.* var., and others. Fine branches laden with flowers of *Cerasus serrulata* backed up these exhibits. In another lot were *Daffodils*, and besides a choice set of the best things now in bloom we noted Mrs. H. J. Veitch, Laura, and Enterpe, a trio of golden trumpet *Daffodils* that will require some heating as to size. Some of them are perfect giants. In addition, such as *Glory* and *Grandiflorus* represented the *Poeticus* set, while *Red Star* is a striking member of the *Incomparabilis* group. Silver Flora medal.

Mr. J. Russell, Richmond, had a superb lot of Maples in the most elegant kinds, chiefly, however, of the palmata sorts; but the freshness and beauty were quite a feature. The varieties *ornatum*, *atropurpureum*, and *palmatifidum* being very fine. Silver Flora medal.

Messrs. Barr and Sons, Covent Garden, had a noble lot of flowers of the late or Darwin Tulips, in which we noted such fine things as *Fran Angelica*, *Circe*, Mrs. Krelage, *White Queen*, *Hecla*, and the *Pride of Haarlem*, the last a magnificent kind of a glowing cerise-scarlet, very effective. In addition the cottage and other Tulips were in evidence and in some quantity. *Saxifraga Stansfieldi*, white, a massy kind, *Phlox Nelsoni*, *Cytisus Ardoinei*, very dwarf, *Trilliums*, *Anemone stellata* *White Queen*, *Trollius Orange Globe*, and a goodly set of the later *Daffodils*. In these we noted *Red Star*, an *Incomparabilis* with spreading perianth and long tube-like, almost scarlet cup, *Snowflake*, a white *Ajax*, *Alida*, a short-crowned *N. grandis*, and a set of the finest poets kinds were also remarked. *Muscaria conicum*, dwarf *Phloxes*, and many other spring flowers were also shown.

Mr. M. Prichard, Christchurch, Hants, staged a fine group of the showy perennials, as for example *Trollius Orange Globe*, *T. asiaticus*, *Geum minimum*, *Polemonium reptans*, *Tulipa retroflexa*, grand yellow, *Phlox Nelsoni*, *P. canadense*, *Iberis superba*, *Scilla nutans*, and *S. campanulata* (each in blue and white forms and very fine), *Saxifraga muscoides atropurpurea*, *Berberis Thunbergii* (pale yellow), *Euphorbia pilosa* major, with such things also as *Aubrietia Souvenir de W. Ingram*, which is one of the best of this class. These and many more constituted a really fine group. Silver Flora medal.

Mr. W. J. Caparne, Guernsey, showed in some quantity his new Iris intermediate group, which is the result of crossing *Oncocyclus*, and other forms of Irises, species or varieties, with *I. pumila* and others nearly allied. The result so far is a great variety of forms. The chief value of these plants is their time of flowering, thus filling up the gap between *I. pumila* and the summer flowering flag Irises that come in June. We think there is a serviceable place for these early comers in the garden. Bronze Flora medal.

Primula obconica and *P. o. alba* were from Frank Lloyd, Esq., Coombe House, Croydon, nicely flowered plants of medium size.

Anemones of the fulgens and coronaria strain came from Messrs. Gilbert and Son, Dyke, Lincolnshire, the one named *A. fulgens oculata* being a distinct kind, while the double coronaria is very intense scarlet in colour. Vote of thanks. *Anthericum arethusa*, a white kind nearly allied to *A. algerense* was sent by Mr. G. Veld, York.

Messrs. Wallace and Co., Colchester, had a varied and beautiful lot of hardy flowers, among which some choice species of Tulip were seen. Of these *ostrowskyana* (orange-vermillion), *T. cornuta*, *T. kolpakowskyana*, and *T. retroflexa* were prominent. In addition, there were Darwin Tulips in variety, and such things as *Erythronium giganteum* (yellow), *Fritillaria recurva* (very fine), *Lewisia rediviva*, the miniature Golden Iris, several *Cypripediums*, as *C. pubescens* and *C. occidentale*, and a good pan of *Anemone fulgens bicolor*. Bronze Flora medal.

A large basket of *Schizanthus* and one of *Mignonette* of a capital strain came from Lady Susan Byng, Bayman Manor, Chesham. Vote of thanks.

Messrs. T. S. Ware, Limited, Feltham, again showed a nice lot of hardy things, as *e.g.*, double yellow Wallflowers, *Saxifraga purpurea*, *Iris Korolkowii*, *I. susiana*, very strong; *Saxifraga granulata plena*, *Androsace villosa*, *Viola pedata*, *Iberis Little Gem*, *Saxifraga aretioidea*, a charming lot of *Primula cortusoides*, in various colours; *Phloxes* of the alpine set, *Gentiana verna*, very beautiful, and many others equally good and interesting. Silver Banksian medal.

A showy zonal *Pelargonium* Coronation formed a fiery bank of rich scarlet in the large group staged by Mr. R. J. Ching, Crescent Nurseries, Enfield.

Messrs. B. Cant and Co., Colchester, showed some capital blooms of Roses, such as *Crown Prince*, *Duke of Wellington*, *Duke of Edinburgh*, freely flowered for this sort, and growing as a standard; *Bride and Bridesmaid*, *Muriel Graham*, *Mrs. Sharman Crawford*, *Anna Oliver*, *Antoine Riviere*, *Mrs. Grant*, *Caroline Testout*, and others in first-rate form. Pot plants as well as boxes of blooms were set up. Silver Banksian medal.

AWARDS OF MERIT.

Saxifraga Guildford Seedling.—This is a crimson-flowered form of *S. Rhei* and a nearly self-coloured flower that originated in the collection of the late Mr. Selfe-Leonard at

Guildford. The freedom of its flowering, with its distinct and intense colouring, should commend it to all lovers of these plants. Shown by the Guildford Hardy Plant Company, Millmead, Guildford.

Pelargonium Colonel Baden-Powell, an Ivy-leaved kind of very considerable size so far as individual flowers go, while its freedom of flowering is a feature. The colour is bluish-pink or flesh, with occasional stripes of carmine or rose. From Mr. Charles Turner, Slough.

Anemone St. Brigid (the strain).—This is obviously, as shown, a strain of much excellence, of large size individually, and embracing a wide range of colour. Quite a large quantity of the flowers must have been fully 4 inches to 5 inches across and varied in the extreme. Exhibited by Messrs. Reainsbottom, King's County, Ireland.

NARCISSUS COMMITTEE.

The following received a first-class certificate:—

Narcissus Ada.—A pure white kind, generally with three flowers in a scape; obviously the influence of *N. triandrus*, which is one of the parente. It is an exquisite flower, and the rounded character of the upper portion of the trumpet characterises it greatly.

Awards of merit were given to:—

Narcissus Moon Ray.—This is whiter generally, and of a parentage akin to *N. Ada*. It is a larger flower, but with rather less substance and character.

Narcissus Cecil Rhodes.—A giant pale-flowered Queen of Spain, the possible result of crossing *N. triandrus* and *N. Emperor*.

Narcissus Watch Fire.—A striking and distinct flower, the segments of the perianth of a creamy buff tone, and the crown deep cinnamon, margined lightly with deep orange. All the above new Narcissi were shown by Miss E. Willmott, Warley Place, Essex.

MIDLAND DAFFODIL SOCIETY.

AMONGST the certificated Narcissi at the recent exhibition of this society, and mentioned in our last issue, were the three following, of which full descriptions were not then given. We are now able to give them.

Egret.—A beautiful Burbidgei, pure white, with firm, well formed segments, the cup very flat and wide, clear yellow. Exhibited by the Rev. G. H. Engleheart. First-class certificate.

Mrs. Hillhouse.—A refined bicolor Daffodil, trumpet bright, clear yellow, rather longer than the segments, which are pure and of good substance. Exhibited by Messrs. Pearsons and Sons, Chilwell Nurseries, Lowdham, Notts. Award of merit.

Araidine.—A Leedsii with very wide cup, the whole flower ivory white. Exhibited by the Rev. G. H. Engleheart. Award of merit.

READING GARDENERS' ASSOCIATION.

THE last meeting of the winter session in connexion with the above association was well attended, when Mr. E. H. Jenkins, of Hampton Hill, gave a most interesting paper on "The Rock Garden." He divided his remarks under the following headings: Position of garden, general aspect, suitable material, general construction, soil and plants. The discussion which followed was taken part in by Messrs. Stanton, Neve, Bassel, Townsend, Cretchley, Hinton, Lever, and Fry. The display of flowers was interesting, and consisted of honorary exhibits and exhibits for the certificate. In the "honorary" division, Mr. W. Townsend, Sandhurst Lodge Gardens, showed a pretty lot of Polyanthus, and Mr. G. Santon, Park Place Gardens, flowering sprays of *Bougainvillea speciosa*, and *Browallia Jamesoni*; whilst for the certificate, Mr. H. House, The Gardens, Oakfield, and Mr. F. Lever, The Gardens, Hillside, gained the awards, the former with twenty-four beautiful bunches of zonals (twelve seedlings and twelve named varieties), and the latter with a group of *Cineraria stellata*. Mr. F. Alexander, The Gardens, St. Mary's Hill, staged a large plant of *Dendrobium nobile*. Three new members were elected.

Cyphomattia lanata.—In reply to "J. C.'s" enquiry I beg to state that one specimen *Cyphomattia lanata* is still under cultivation here. —MAX LEICHTLIN, *Baden-Baden*.

Lacking rain.—Whilst there is no great amount of sunshine, certainly not so much as we naturally look for at this time of the year, all the same we get very little rain. April was dry, hence a disappointing month, and if May proves no better we shall be in a somewhat unpleasant position when really hot weather sets in. Ground has never worked better or drier than it has during this spring; but, pleasant for the gardener as that may have been, he all the same looks forward to the effects of heat and drought on soil that is now so deficient of moisture somewhat ruefully. Particularly important is it that we have ample rains shortly that the roots of fruit trees may find moisture to sustain their crops later. The continuance of dry seasons constitutes a grave danger to crops of all descriptions. On the other hand, a wet summer may prove even worse all round than a dry one.—A. D.

Horticultural Club.—The usual monthly house dinner was held on Tuesday evening last, when the Rev. George Engleheart talked about Daffodils. There was a large attendance of members; Mr. Harry J. Veitch was in the chair.

OBITUARY.

MR J. CRAWFORD.

It is with sincere grief we hear of the death of this good gardener, who has during recent years borne intense suffering with great bravery, and struggled to support his family by writing for the horticultural journals notes and articles, many of which were contributed to THE GARDEN. Mr. Crawford began gardening at Thorndon Hall, Brentwood, Essex, the residence of the late Lord Petre, where his father had charge of the gardens. He then went to the gardens of Sir Joseph Pease, Hutton Hall, Yorkshire, and thence to the late Mr. James Martin, Chiselhurst. From these gardens he went to Gunton Park, Norwich, the residence of Lord Suffield, as foreman to Mr. Allan. His next move was as foreman to Sir Edward Scott, Sundridge Park, Bromley, and then to his late position as head gardener to Mr. James Thorpe, Coddington Hall, Newark. He remained at Coddington Hall for fourteen years, and left through ill-health. It was hoped that the air of Norwich, rest, and constant medical aid would restore Mr. Crawford to his former health, but this was not to be. After suffering for four years and a half the end came on April 18, in his forty-seventh year, leaving a widow and five children absolutely, we believe, unprovided for. Through his long and weary illness he was, we understand, cared for with brotherly kindness by Mr. Allan, the head gardener to Lord Suffield, at Gunton, and such devotion is not rare amongst gardeners. We hope that some of the gardening charities will remember the family of Mr. Crawford. It is a singularly painful case for their consideration.

ANSWERS TO CORRESPONDENTS.

Names of plants.—Miss C.—*Trollius asiaticus* var. *aurantiacus*.—D. M. D., *Falkirk*.—Tulip Prince of Austria.—F. A. Sturge.—The small *Narcissus* is N. Barri A. F. Barron, the larger one N. Nelsoni *aurantius* (though a poorly coloured form); *Arabis albidula*.—J. Podmore.—*Epimedium alpinum rubrum*.

Plants by Foreign Parcels Post (M. E. C.).—Plants are not generally accepted by parcel post in Italy, but small quantities can be sent by sample post labelled "samples no value" (*Campioni senza valore, o Echantillons sans valeur*). Bulbs in flower must be replanted at once, and even then they take a year to recover. They can only be stored for a certain time when they have ripened naturally and the foliage has completely died down. We regret that this query has remained some time unanswered.

Moss and Lichen (H. H. A.).—The quickest way to induce the growth of Moss is to keep the stones constantly watered. Small pieces of the Moss can also be planted in the chinks and joints. Lichen cannot be planted; it might be induced to grow by shaking the spores over the stone, but in any case it is of extremely slow growth. A good way might be to collect some lichen stones and place them on the new work and wait for them to shed the spores naturally.

Rubus delicosus.—Mr. T. Arnold, The Gardens, Cirencester House, writes that in his note on the above plant (page 277, April 26) the last sentence in the first paragraph should read: "In such a position it will soon be one mass of flowers."

Rose Celeste (M. O'E.).—Rose Celeste is not a rambler, but a beautiful Rose of bush habit of the alba class. You could no doubt get it from Messrs. Paul and Sons, the Old Nurseries, Cheshunt. The name "Seven Sisters" is so loosely applied to many cluster-blooming rambling Roses that you would probably get what you require if you asked for Bennett's Seedling or Dundee Rambler.

Plant Vases (H. H. A.).—We are unable to recommend any special vases. Amongst those to be had in England there is but little choice. But there is always the resource of using half paraffin casks, which make excellent plant tubs, and are available for nearly all gardens. They have also the great advantage of large capacity, giving plenty of space for the rooting of plants and small shrubs or even climbers.

Diseased Schizanthus (W. G.).—I have examined your plants of *Schizanthus* very carefully, and can find no clue to the disease. There are no signs of insects or eelworms. I have cut and stained sections of the diseased part of the stems and cannot find any trace of fungi of any kind, and the roots appear to be healthy, so that I am completely puzzled as to the cause of the decay.—G. S. S.

CORRECTION.—In our report of the Royal Botanic Society's Exhibition held on April 23, it was mentioned that two hybrid Irises (Canary Bird and Bridesmaid) had received awards of merit from the Royal Horticultural Society. Mr. Perry tells us, however, that the awards of merit were given by the Royal Botanic Society.

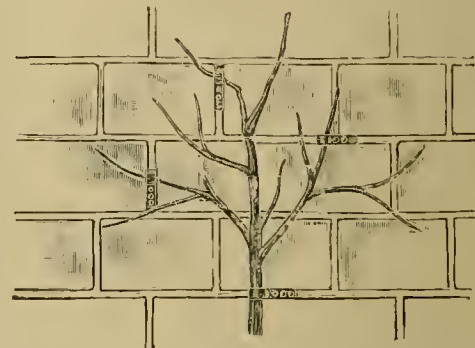
Miss Jekyll.—After the end of May all communications for THE GARDEN should be addressed to the Editor, 20, Tavistock Street, Covent Garden, W.C. Miss Jekyll is leaving England for a prolonged rest, and no letters or communications will be forwarded.

TRADE NOTES.

MESSRS. MESSENGER AND CO., Loughborough, and 122, Victoria Street, S.W., have sent us a booklet, excellently produced, containing illustrations of glass houses of all descriptions, as well as sketches of iron stagings, heating apparatus, &c. Messrs. Messenger claim that their system of construction, combining iron muntins and light rafters, strengthened with tension rods, ensures perfect rigidity without undue obstruction of light by heavy timbers. The Loughborough boiler, still one of the most economical and reliable, is also illustrated.

NEW CREEPER WALL CLIP.

This is a practical, simple, and cheap invention for training all kinds of creepers, trees, and plants up walls, fences, &c., sent out by the Patent Creeper Wall Clip Company, Redditch. The accompanying illustrations will give a good



idea of the clip and its working. It is fixed by simply driving three specially made small tacks into the wall, which will enter the hardest or most fragile mortar or wood with ease, without displacing or splitting them, and will hold the clip firmly in its place. After fixing, the clip is opened with the fingers, and the creeper passed in, thus avoiding all risk



APPLIED FOR

of striking the creeper with the hammer and injuring it, as is often the case when using cloth. The metal is so very thin that the clip will expand as the creeper grows. The latter can be cut down when necessary, and another trained in its place without removing the clips. These will not rot or wear out like cloth.

CATALOGUES RECEIVED.

Hardy Border and Rock Plants, Water Lilies, &c.—Mr. Amos Perry, Hardy Plant Farm, Winchmore Hill, N. **New and Rare Hardy Perennials and Alpines.**—Messrs. T. S. Ware, Limited, Hale Farm Nurseries, Feltham. **General Plant List.**—Messrs. Clibbens, Altrincham and Manchester.

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THE GARDEN

No. 1591.—VOL. LXI.]

[MAY 17, 1902.]

ARE PLANT DISEASES HEREDITARY?

“THE hereditary transference of diseases to succeeding generations is unknown in the vegetable world. The seed of plants afflicted with all possible sorts of diseases may be utilised without the slightest concern for the formation of new crops.”—Professor Hartig, quoted by Nisbet in “Studies in Forestry,” page 172.

The above quoted passage will seem to many readers very extraordinary if not positively erroneous. They will say: “Many diseases of man and animals are hereditary; why should not the same rule apply in plants?” And, indeed, the statement of Professor Hartig being expressly limited to the vegetable world would seem to acknowledge that it does apply in the case of animals. But although the belief that it does so apply has been till very recently almost universally held by biologists, of late years great doubt has been thrown upon the fact, due mainly to the researches of Galton and Weisman, leading to the belief that “acquired characters” are not transmissible to offspring, and that diseases are certainly in most cases acquired by the parent, not born with him.

In a very interesting and original work, “The Present Evolution of Man,” by Dr. G. Archdall Reid, this subject is very fully discussed, and it is shown that, with very few exceptions, there is no proof whatever of the inheritance of disease in man, but only of the inheritance of a *tendency* to the special disease of the parent, so that under similar unhealthy conditions of life or of exposure to infection, the child is likely to contract the same disease, which will thus appear to be hereditary without being really so. This is clearly the case with gout and consumption, which have both been held to be hereditary, but in no case has an infant been born suffering from these diseases.

The only diseases which appear to be really transmitted are those in which a mother suffers from one of the zymotic diseases previous to the birth of her child, and the disease germs through her blood obtain access to the blood of her unborn offspring. Thus children are sometimes born apparently suffering from syphilis and even from small-pox, when the mother is, or has recently been, actually suffering from those diseases; but Dr. Reid urges that this cannot be held to prove actual

heredity of the disease, but merely that the otherwise healthy child has been infected through the mother before birth, just as it might be after birth through the milk of a wet-nurse suffering from the same disease. In this latter case no one could possibly say that the infection proved the hereditary transmission of the disease, but only an infection as purely extraneous as if the poor child had been inoculated with it, or had been in close contact with another child suffering from it. It seems therefore highly probable that the statement made by Professor Hartig as regards plants is really true as regards the higher animals also; but there is a special reason why it should apply more rigidly in the case of plants which it may be as well to mention. It is very doubtful whether any of the diseases to which domesticated animals are so subject really exist among fully adult animals in a state of nature—that is, in regions where they are not in contact with domesticated animals of their own species, or where their natural conditions of life have not been injuriously modified by human agency. The cause of this immunity is the severity of the action of natural selection or the “survival of the fittest,” which in this special case may be best expressed as “the extinction of the unfittest.” If we consider that a wild animal can only maintain its existence day by day through being able both to obtain food and to escape from its enemies, and that any serious illness would certainly endanger its existence by rendering it unable to do either, we see that all liability to disease has been so constantly eliminated generation after generation during the whole course of the development of the species, that almost perfect health under the normal conditions of existence has long since been attained. But however rigid this selecting process is in the case of the animals, it is much more rigid in the case of most plants, because the actual or potential rate of increase is so much greater. However numerous may be the offspring of the higher animal, those of plants are far more numerous, often in the proportion of a hundred to one. Every year millions of seeds germinate which never grow into mature plants, and as the slightest tendency to disease or constitutional weakness in any seedling would certainly give that individual a special cause of extinction in addition to the general causes which affect those which are healthy, it follows that all tendency to injurious disease would be eradicated among plants even more early and more completely than in the case of animals.

Although I have no acquaintance with the detailed facts on which the statement at the head of this article was founded, I am disposed to accept it as an accurate one from its accordance with the general principles of evolution and the now generally accepted laws of heredity.

ALFRED R. WALLACE.

EDITORS' TABLE.

Now that flowers are plentiful we shall be glad to see any either of special beauty, rarity, or good cultivation.

SEEDLING FRITILLARIA MELEAGRIS.

I have pleasure in sending you herewith flowers of seedlings of *Fritillaria Meleagris*. These seedlings only reach half the height of the parent form, and, as you see, are quite long and narrow. If I am not mistaken, the white form is already known under the name of *contorta*, but as far as I know the pale and dark brown forms do not exist. —A. M. C. VAN DER ELST, *Dedemsdaart, near Zwolle, Netherlands*.

Unfortunately, the flowers were too shrivelled to pass any safe opinion upon their merits; they were evidently longer and narrower than the typical Meadow Fritillary, but we doubt whether this is an advantage. The work of raising seedlings is very interesting, but the graceful stem and big, somewhat bell shape of our native Fritillary are things to keep, not to suppress.

NARCISSUS LEEDSI ELAINE.

Messrs. Dicksons, of Chester, send flowers of an exquisite *Narcissus*, appropriately named Elaine. It was raised by the Rev. G. H. Engleheart, and Messrs. Dicksons write that “we purpose, all being well, distributing it in the autumn of 1903, as we have already purchased the entire stock.” It is well known that Messrs. Dicksons grow *Narcissi* largely, and this is one of the gems of the collection. The flowers have a broad perianth of softest yellow, almost primrose colour, and a small primrose coloured cup. Its delicate beauty suggests many uses for the flower.

TULIPS FROM IRELAND.

A very beautiful gathering of Tulips comes from Mr. Hartland, of Cork. The flowers sent are Gold Flake, scarlet, striped with yellow; *Fulgens lutea*, grand blooms of purest yellow; *Marjoleti*, a neat pale yellow bloom with rosy clouds towards the outer base of the petal; *Didieri alba*, a tender and beautiful flower; *Shandon Bells*, rose and white, large; *Gesneriana alba*, white, with a slight rosy picotee edge; *Aurantiaca maculata*, large orange-red; *Lutea pallida*, pale canary, large; *Vitellina*, tenderest pale lemon, a lovely flower; *Sunset*, red and yellow; *Ixioides*, yellow, with a telling greenish black blotch; *York and Lancaster*, cream, splashed rose; *Aurantiaca striata*, red and yellow; *Fairy Queen*, coloured in half tones of yellow and purple; *Leghorn Bonnett*, a beautiful self-coloured flower of bright straw-yellow; *Othello*, dark red; *Virginie*, white, splashed and spotted rose; *Picotee*, white, edged rose, of charming garden shape; *Elegans alba*, ivory

white with minute picotee edge, a most lovely and refined flower; The Fawn, white and fawn colour outside; Bouton d'Or, a globular flower of splendid yellow; John Ruskin, of graduated quiet rose and yellow; and Maculata globosa grandiflora, a splendid dark scarlet with black eyedged with gold.

BERRIED AUCUBA SPRAYS.

From Mr. H. J. Clayton, Tadcaster, Warks, came some very finely berried sprays of Aucuba. The berries are of unusual size, some scarlet and some pale pink. The following letter accompanied them: "Not being much of a traveller my vision on the matter is a limited one: all the same, I must say that Aucubas are not so freely planted in northern gardens as their merits deserve. Some ten years since we planted two clumps of them in the grounds here, and, to say the least, they are a valuable addition to our collection of evergreen shrubs. The soil they are growing in is a moist loamy one, of a limestone character, and the larger-leaved varieties are fully 5 feet in height. Out of about two dozen plants no two of them are exactly alike. For small groups or single specimens in our smaller gardens I think they are admirable. For instance, what could be more beautiful than a large plant of the one sent you marked No. 1, growing on the front edge of a shrubbery or as a single specimen on the grass in some sheltered nook? It is necessary for them to be exposed to the full sunshine if they are to berry freely like the specimen sent. I find the seeds grow fairly well if sown in shallow boxes filled with light, loamy soil and the seeds covered, say, half an inch with the same. The boxes should be put in a cold frame. All the seeds do not germinate the first year with us, though we find the later ones are weakly in character. An amateur friend of mine who is fond of having some living vegetation in his sitting-room when he cannot get a few flowers in early spring, tells me that small branches of what he calls 'variegated Laurel' (*Aucuba japonica*) nearly always form roots when kept in water for some time. By planting them in a sheltered nook in his garden and being careful to put them in a bit of nice sandy loam he has reared several healthy plants. Experienced gardeners will know that *Dracenas* can be propagated in this way. Pieces of the one marked No. 1 come in very nicely for decorating the dinner table. They light up very well under artificial light. I thought the specimens sent might be interesting for 'Editors' Table.'"

MARECHAL NIEL ROSES.

Mr. T. B. Field, Ashwellthorpe Hall Gardens, Norwich, who sends so many interesting flowers for our table, sends superb flowers for colour and form of the favourite *Marechal Niel*, a fragrant bowlful, and comforting to look at when a biting north-east wind is shrivelling every leaf on the Roses out of doors.

IRIS PUMILA.

Mr. Field also sends this charming little *Iris*, with the following note: "This lovely little plant does well on a dry border and flowers freely: it makes a nice carpet in the partial shade of trees."

A COLLECTION OF DAFFODILS FROM GRASS LAND.

Mr. R. Carruthers sends from his interesting garden at Eden Grove, Carlisle, a delightful series of Daffodils, with, among other remarks, the following: "I regret I did not send these Daffodils sooner as they would have been fresher and in their full beauty. Some are over, and of course these I cannot send. I have planted several varieties late, and have yet to see in flower a group of 100 of each of the following: *N. Magdalene de Graaf*, *Burbidgei* Little Dirk, *Leedsi* Duchess of Westminster, the trumpet-flowered Mrs. Thomson, and *Incomparabilis* Gwyther. I have now in flower a colony of 100 bulbs of *N. bicolor* Victoria. The variety *Incomparabilis* plenius (*Butter* and *Eggs*) seems with me at least this year to have reverted to a semi-double and even single form, as example sent will show.

All the Daffodils sent are grown in grass land except *Maximus* and *Golden Spur*—the latter planted late—*Incomparabilis* plenius (*Butter* and *Eggs*), *Orange* Phoenix, nanus, and lobularis. My favourites are *Emperor*, *Horsfieldi*, *Barri* Liddington, *Barri* conspicuus, *Incomparabilis* Beauty, *Incomp.* Sir Watkin, *Incomp.* Autocrat, *Leedsi* Minnie Hume, *Leedsi* M. Magdalene de Graaf, *Leedsi* Duchess of Brabant, *Leedsi* Acis, *Leedsi* Duchess of Westminster, *Johnstoni* Queen of Spain, P. R. Barr, *Obvallaris*, *pallidus* praecox, *Albicans*, and *Maximus*."

[An interesting letter and series of flowers from one who grows Daffodils well. As this is Daffodil time it will, I hope, interest our readers to know the kinds sent by our correspondent. We take them as they are in the box with Mr. Carruthers' remarks: *Burbidgei* Vanessa, *Burbidgei*, *Tortuosus* (twisted perianth, trumpet sulphur, passing to white), *Incomp.* Fanny Mason (very free), *Incomp.* Magog, *Bicolor* Michael Foster, *Bicolor* Portia, *Nelsoni* major, *Nelsoni* Wm. Backhouse, *Leedsi* Beatrice (lovely after opening, an exquisite flower), *Leedsi* amabilis, *Poeticus* praecox grandiflorus, *Barri* Geo. Murray (dwarf and free), *Incomp.* Autocrat, *Barri* Golden Gem, *Incomp.* plenius or *Butter* and *Eggs* (to show how this has turned into the single form), *Golden Spur*, *Leedsi* superbus, *Leedsi* Princess of Wales, P. R. Barr (very large, and a splendid grower), *Bicolor* Victoria (a beautiful flower), *Humei* Hume's Giant, *Shirley* Hibberd, *Incomp.* Goliath, *Princeps*, *Achilles* (planted late, a very free and fine variety, early, follows *pallidus* praecox), *Spurius* (early, but planted late), *Emperor*, *Bicolor* scoticus (dwarf, planted late), *Incomp.* Gwyther (tall, very free and beautiful), *Bicolor* Empress, *Bicolor* Dean Herbert, *Incomp.* Sir Watkin (very free and fine), *Barri* Miriam Barton, *Incomp.* plenius *Orange* Phoenix (*Eggs* and *Bacon*), *Nelsoni* Mrs. Backhouse, *Johnstoni* Queen of Spain, *Bicolor* Ada Brooke (flowering midway between *Empress* and *grandis*), *Obvallaris* (Tenby Daffodil; this was planted late, hence the reason of its present flowering; old clumps are fairly satisfactory with me), *Bicolor* Horsfieldi (very free and fine), *Leedsi* Duchess of Westminster, *Countess* of Annesley (planted late), *Leedsi* Mrs. Langtry, *Incomp.* Princess Mary, *Barri* Golden Mary, *Burbidgei* John Bain (lasts long in bloom), Mr. J. Berkeley (a lovely flower with a perfume of Almonds), *Bicolor* variflorus (planted in grass and dibbled in as thrown down), and *Leedsi* Acis (very lovely on opening, a beautiful apricot colour). A pile of flowers is still before us, so we must select a few only of those remaining for comment. We were charmed with the flowers of *Leedsi* N. Magdalene de Graaf. It is a lovely *Narcissus*, very free, and sometimes two-flowered with Mr. Carruthers; *albicans* (very beautiful and very free, trumpet lemon, changing to white), *Barri* Flora Wilson (very free bloomer and grand grower), *Leedsi* Duchess of Brabant (very free and pretty), *Leedsi* Grand Duchess (a delicately beautiful flower, cup apricot at first), C. W. Cowan (a lovely flower, sulphur trumpet, white perianth), *Burbidgei* Falstaff (very pretty), Wm. Goldring (Swan's-neck Daffodil, free with me in grass), and superb flowers of *Barri* conspicuus. Mr. Carruthers also sends a bunch of the dainty *Angel's Tears* (*Narcissus triandrus* albus), the brilliant *Anemone coronaria* fl.-pl. King of Scarlets (*Gilbert's*), the most fragrant, we think, of all double Violets, *Belle de Chatenay*, and *Muscari* Heavenly Blue, a beautiful blue shade, one of the best of its family.]

PRIMROSE EVELYN ARKWRIGHT.

We seem to have lost sight of this fine Primrose, but Mr. Carruthers reminds us of it by sending a bunch of flowers. A coloured plate of this variety has appeared in THE GARDEN, and an award of merit has been given to it by the Royal Horticultural Society. It is quite a distinct Primrose, of much the same shade of yellow as our common wilding, but much larger, and larger, indeed, in all ways, as the leaves are remarkably long and broad. We should much like to know how this Primrose has behaved with others.

ARABIS ALBIDA FL.-FL.

We are reminded of this good garden plant by flowers from Mr. Carruthers. This is one of the best things introduced of late years: it is wonderfully strong, and as free in every way as the type, each flower like a little white rosette. Those who have not got this double *Arabis* should do so. As the flowers are quite double they naturally last longer in beauty than the single *Arabis* we know so well.

POLYANTHUSES FROM SOMERSET.

Mr. Crook, The Gardens, Forde Abbey, sends a delightful series of Polyanthus of good colours, yellow, orange, white, rose, and many beautiful shades; the flower stems strong, and held well above the leaves. We have seen this strain before, and consider it one of the best ever raised, as the colours have been kept distinct.

NOTES OF THE WEEK.

FORTHCOMING EVENTS.

May 20.—Royal Horticultural Society's Committees meet: Royal National Tulip Societies' Exhibition (Southern section); both at Drill Hall, Buckingham Gate, S.W.

May 21.—Ancient Society of York Florists' Show; exhibition of the Société Nationale d'Horticulture de France (six days.)

May 24.—Annual Meeting of the Linnean Society.

May 27.—Annual General Meeting and Dinner of Members of the Kew Guild at the Holborn Restaurant.

May 28.—Temple Show of the Royal Horticultural Society (three days); Annual Dinner of the Gardeners' Royal Benevolent Institution at the Hotel Metropole.

A vegetable exhibition.—Believing that high-class garden vegetables have fully as much value in garden economy as plants, flowers, and fruits, which the Royal Horticultural Society by its shows and meetings specially favour, and realising that to every gardener vegetables are of the highest importance, it is our desire to secure from the council more complete recognition of the value of vegetables than the Royal Horticultural Society at present gives. To that end we wish to see at least one meeting annually at the Drill Hall devoted to a vegetable exhibition, suggesting that to enable various season's products to be displayed that these exhibitions be held in the months of July and October alternately. We therefore beg of you to kindly insert this communication in your columns, that readers interested in good class vegetable culture may read, and, if they will do so, kindly send to one or other whose names are appended below on a post-card intimation that they wish their names to be affixed to a memorial to the council it is purposed later to present inviting that body to accede to the request thus made.—E. BECKETT, Aldenham House Gardens, Elstree, Herts; and A. DEAN, 62, Richmond Road, Kingston-on-Thames. [We heartily support the desire that vegetables receive their full share of recognition at the meetings of the Royal Horticultural Society, and knowing how desirous the society is to help the pursuit of horticulture in every possible way, we feel sure that if dates can be fitted in the council will do everything in their power to assist the movement.—EDS.]

Plants by Foreign Parcels Post.

—Referring to the reply to "M. E. C.," in THE GARDEN of May 10, I may say that I receive plants from Italy every year by parcels post, either in light boxes or baskets. This is not only bulbs at rest, but also green plants of various kinds. If packed with damp moss they generally arrive safely.—S. ARNOTT.

Experiments in hybridising.—In reference to the experiments recently carried out by Mr. Sutton at Reading, in demonstration of the liability of cruciferous plants to cross-fertilise naturally (see page 102), the experience of a grower at the Antipodes may be of some little interest as

confirming the result of Mr. Sutton's experiments. Two years ago I saved several plants of Cauliflower in order to secure seed of a variety not to be obtained locally. At the same time two varieties of Kohl Rabi (purple and green) were flowering in the vicinity. The Cauliflowers seeded freely and a large crop of plants were raised, with the result that not more than 5 per cent. were true. The remainder all showed more or less the enlarged stalk of the Kohl Rabi, with distinct evidence of both Kohl Rabi parents, while most of the hybrids also developed a mongrel Cauliflower head, green in colour and of practically no value for table purposes.—HENRY SELKIRK, *Lands Department, Sydney, New South Wales*, April 3.

A young Irish gardener's success.

—Readers of THE GARDEN will remember that some time ago the Royal Caledonian Horticultural Society offered prizes to young gardeners for the best plan for laying out a piece of ground, about 20 acres in extent, as kitchen garden, flower garden, &c. We understand that twenty plans were submitted to the judges—Mr. Whitton, superintendent of parks and botanic gardens, Glasgow, and Mr. McHattie, superintendent of parks, Edinburgh—and that the first prize has been awarded to Mr. Alexander Trotter, foreman Coollattin Park, Shillelagh, County Wicklow.

Erigeron mucronatus (De Candolle).—On page 312 I observe the name Corsican Daisy given to this plant, which I have never seen so named before, but as its habitat and its identity are often mistaken I may be excused for saying that it is a native of the mountains of Mexico and was for long confused with *Vittadinia triloba* (De Candolle), an Australian Daisy, similar in stature and habit, but botanically distinct, with leaves divided at the end into three equal lobes, whilst those of the *Erigeron* have two lateral incisions dividing the leaf into very unequal parts, each of which has a visible cusp (mucro) at the tip. This Mexican Daisy is naturalised in several parts of southern Europe, such as the Italian lakes and Sicily, and it may be so in Corsica, and might easily be established as a wild plant in warm situations in England and Wales. Here in Cheshire plants of it live for several years where they sow themselves, and are hardier, as well as more ornamental, than the *Vittadinia*, though opinions differ as to the merits of this *Erigeron* for garden decoration.—C. WOLLEY DOD, *Edge Hall, Malpas*.

The Temple show—re Sherwood Cup competition.—Intending exhibitors for the Sherwood Cup are requested to note that all groups competing for the cup will be staged in the open air, and must not occupy more than 500 square feet, but the actual space to be allotted to these groups cannot be decided until the number of competitors is known, as the space at command is limited, and must be divided equally. Tuesday, the 20th inst., is the last day for entering.—By order of council, W. WILKS, *Secretary*.

Gardeners' Royal Benevolent Society and Royal Gardeners' Orphan Fund.—The Earl of Ilchester has kindly placed the beautiful private pleasure gardens of Holland House at the service of the above great gardening charities on the first day of the show. A charge of 1s. for admission will be made, and the proceeds be given to the charities in the proportion of two-thirds to the benevolent and one-third to the orphan society. Entrance will be only from the show ground.

Dielytra spectabilis at Hackwood Park.—If I were asked to mention the most beautiful of all hardy herbaceous plants which bloom in the spring I should name *Dielytra spectabilis*, although perhaps next would come *Doronicum Harpur-Crewe*. I saw this *Dielytra* the other day as a noble pot plant standing in a vase in one of the large rooms of Forde Abbey, Chard, Somerset, and for this purpose a more graceful or beautiful plant could not be found. Mr. Crook finds in the comparatively cool rooms of the Abbey that it endures for some time. Few plants have such distinct beauty as this. At Hackwood Park, Basingstoke, Mr. Bowerman has noble plants of it on the flower borders, where it is greatly admired. Were it just now introduced as

a new plant it would create a sensation. It is surprising how soon our enthusiasm over new things cools when they are easily grown and become common. Let it be something even inferior but costly then is it worshipped. Can anyone name a more beautiful plant for spring flowering than this *Dielytra*?—A. D.

Myosotis dissitiflora at Sherborne Castle.—I saw this early and most beautiful of all the Forget-me-nots at Sherborne Castle recently, where Mr. Turton grows it largely. He does not save seed and sow it, as there is always plenty naturally dropped, and seedlings in the autumn are abundant. There is not a blue spring blooming plant that can excel this Forget-me-not for effect or beauty. Its broad or spreading habit and mass of cerulean blue flowers—in all not 6 inches in height—can hardly be excelled for effect. I noticed in one fine place numerous plants of the pretty *M. alpestris* Victoria, but at that time not one was in bloom. Really, these would be fully six weeks later than would be the lovely *M. dissitiflora*. As for the tall *Myosotis sylvatica* it cannot be compared with the former. *M. dissitiflora* should always be raised from seed; for that reason it is more a seedman's plant than it is the hardy plantsman. It certainly does best on somewhat raised ground and where partially sheltered.—A. D.

Fritillaria Imperialis (Crown Imperial) in pots.—These stately plants for the past fortnight have made a very welcome feature in the garden. The success of their culture in pots is the chief reason for this note, excellent results having been obtained from this treatment. Early in October last bulbs were placed in 8-inch pots in a compost of loam, leaf-mould, and coarse sand, the first-named material largely predominating. The pots were plunged in the ordinary way and left undisturbed until the last week in March. When removed from the plunging material the fleshy roots were laid bare on the surface and means adopted to prevent the plants experiencing a check. They were placed just as they were into 10-inch pots, and the surface heavily mulched with some loamy soil. By these means copious supplies of water have been frequently applied, and the plants have succeeded in consequence. The plants were not more than 3 inches or 4 inches high at the end of March, and by April 20 were handsome and stately specimens quite 3 feet 6 inches in height. Since the plants were first removed from the plunging material they have been placed in a cold greenhouse, and this structure has been abundantly ventilated both night and day. This treatment has had the effect of keeping the growth steady, thereby developing sturdy plants. The curious and rather unpleasant odour which the bulb gives off is not nearly so pronounced as the plant finishes; as a matter of fact, at the time of writing it is hardly perceptible. I have only three varieties, but these make a handsome display. The leaves are about 6½ inches in length, and the lower ones are almost 2½ inches in diameter. This will give readers of THE GARDEN some idea of the character of the growth under pot culture. Those out in the open border create a beautiful effect when grouped in colonies of half a dozen to a dozen plants in each. The yellow variety appears to be the more vigorous, judging by its stout, tall, and erect stems.—D. B. C.

New Cactus Dahlias.—The schedule of the National Dahlia Society and annual report just issued is to lovers of Cactus Dahlias—and who are not?—very interesting reading. The report as to awards made by the society last year, to new varieties therein published, shows that it is responsible for no less than twenty-seven such awards. Then the advertisement pages of the schedule show that various well-known raisers offer this year, as new, not less than thirty-seven, and as that number does not include nine awarded certificates last year, added to the thirty-seven makes it forty-six, and as there may be others still not mentioned, it is quite possible that fifty new ones will this season be put into commerce. That fact serves to show that it is high time the National Dahlia Society established a higher and more severe standard of excellence for

seedlings than now exists. It is not pleasant to learn that some varieties getting these awards are found a year later to be very poor growers or bloomers. Surely it is possible to make seedling requirements so much higher that only the very best, quite superior to older varieties, should get awards.—D.

Pyrus floribunda.—Of the numerous species of *Pyrus* suitable for the shrubbery or for isolated specimens on the lawn this is one of the very best, as it makes a compact bush, and can be depended on to flower grandly every year. At Kew it is used for a variety of purposes, and is always charming, whether seen in groups with a background of conifers, in shrubberies, or as single specimens. The tallest plants at Kew do not exceed 9 feet in height, but are quite 12 feet in diameter, the flowers being so numerous as to hide the branches. In colour the flowers of the type are light pink, but there is a variety known as *atrosanguinea* which has much darker and richer coloured blossoms. It is a native of Japan, and has been in cultivation for a great number of years.—W. DALLIMORE.

Crown Imperials under trees.—I have grown these for two seasons in a shady position under trees in rather damp soil, and they have failed to flower satisfactorily. The bulbs were sound and good. Can any of your readers give me full particulars for successful culture, as I am rather disappointed with my experience? All other Lilies and Fritillaries are good here.—WALTER SMYTH, *Holywood, County Down*.

The Judas Tree.—Throughout May and early June *Cercis Siliquastrum*—which is the correct name of this shrub or small tree—is very beautiful, being smothered with pretty Pear-shaped red blossoms. At Kew it is flowering well in numerous places. It is a native of the Mediterranean region, and grows to a height of 20 feet or more, though in gardens here it is more often represented by bushes of less than half that height. It thrives in sandy loam, and likes plenty of sun and air. The flowers are produced from all parts of the stems, much of the old wood being often smothered with flowering spurs. A variety with white flowers is in cultivation, and this may also be seen in flower at Kew. In addition to this species, *canadensis* from North America, and *chinensis*, a native of China and Japan, are also grown, whilst a fourth species, *reinformis*, from Western China, has lately put in an appearance, but it has, however, so far proved more tender than the others.—W. DALLIMORE.

Squirrels and Horse-chestnuts.—I am enclosing some young shoots of Horse-chestnut for your inspection. They are gnawed off by squirrels. I do not think there is anything really new about this; but what has often puzzled me is that most of the shoots gnawed by them are on about three trees. Other Horse-chestnuts are easily accessible, yet they confine their attention to a few trees. Judging by the way the young shoots are eaten it is evidently the pith that the squirrels are after. Perhaps those eaten are more tasty than the others. Can you or your readers throw any light on the matter?—H. J. C., *Grimston, Tadcaster*.

Blanching Seakale outdoors.—I noticed recently in the fine garden at Sherborne Castle, Dorset, that early planted root cuttings of Seakale had made good top growth and were ready for crown thinning. The gardener, Mr. Turton, mentioned that a portion was not lifted, but blanched in the open with soil, but not in the common ridge fashion. He has specially made round, drain-like pipes 10 inches long and 6 inches broad inside. These are placed singly over crowns, then filled in with fine soil. When the tops of the leaves show signs of coming through, the pipes of so many heads as needed are lifted off, the soil then falls away, and the heads are easily cut. In another garden I observed that 8-inch pots inverted over the crowns, the holes being stopped with moss, are used, but the Kale was in this case less thoroughly blanched. The largest Kale anyone has yet seen probably was that recently shown at the Drill Hall by Mr. Russell, of Richmond, finely blanched, but all the same too large for a gentleman's table.—A. D.

Calceolaria chelidonioides.—This is a useful little plant with lemon-yellow flowers that one seldom sees as a bedding plant. It is a half-hardy annual, flowers in July if sown now, and grows about 15 inches high. The colour is exactly the same as that of *Calceolaria amplexicaulis*. The young seedlings are very sturdy and easy to handle.—E. C., Surrey.

A spring border.—One of the most satisfactory ways of planting the border of a shady path for spring is to have a carpet of white Arabis about a foot wide, with blue wood Hyacinths (*Scilla nutans*) planted among it. The white flowers and grey-green leaves of the Rock Cress show up the sombre blue of the Hyacinths, which to me have always rather a gloomy appearance when planted alone. In this garden these two always bloom at the same time.—E. C., Surrey.

Kew Guild.—The annual dinner will be held at the Holborn Restaurant on May 27 (the day before the Royal Horticultural Society's Temple Show). Mr. J. G. Baker, F.R.S., will preside, supported by the Director, Sir W. T. Thiselton-Dyer, Sir George King, Dr. M. T. Masters, Dr. Bayley Balfour, Mr. James H. Veitch, Mr. J. Sander, and Mr. F. W. Moore have been invited as guests of the Guild. The annual general meeting will be held the same evening at 6.30, also at the Holborn Restaurant.

Primroses and Ladies' Smocks.—A charming combination was noted recently in a narrow copse strewn with Primroses and Ladies' Smocks, the latter with their pale lilac colours associating beautifully with the brighter Primroses. What happy marriages in the colour way may often be seen in the woodlands just now, the time when they present their fullest beauty.—Qro.

Blue Hyacinth Grand Maitre.—With reference to your answer regarding a good blue Hyacinth in *THE GARDEN* for April 26, allow me to say that on April 14 I paid a visit to Hyde Park, when many of the flowers in the beds parallel with Park Lane were at their best. Of the numerous Hyacinths with blue blossoms there represented the finest was undoubtedly Grand Maitre, a pleasing rather light blue flower. Several beds were planted entirely with this kind, and, though not there associated with Daffodils, it would, of course, go well with them.—T.

Phillyrea vilmoriniana.—This splendid evergreen is now flowering profusely. I do not remember having seen it bloom so abundantly as this year. One cannot overlook it, for its fragrance arrests attention. This fragrance reminds me of Woodruff, yet it is more powerful. The white, Jasmine-like flowers are produced in axillary clusters, and contrast well with the dark myrtle-green foliage. The leaves on well-developed bushes are fully 6 inches long and about 1½ inches broad. This fact, combined with the perfect globular form the plants develop, make it one of the most desirable evergreens to grow. It is readily raised from seed.—P.

Early-flowering Chrysanthemum (Horace Martin).—This was the plant to which so many referred last autumn as being the one likely to eclipse all other existing yellows. It is a variety of Mme. Marie Masse. In this case, however, Crimson Marie Masse is its immediate parent, and as this group is of exceptionally good habit and flowers profusely the good opinion held of its excellent qualities is not in the least misplaced. The flowers are golden-yellow and of good form, even without disbudding. As a sort for pot culture it should be in great demand, as we are by no means overburdened with good yellow Chrysanthemums throughout September and early October. Some of the sports from Mme. Marie Masse begin to flower much earlier, and it is fairly safe to assume that this variety will also do the same. This is a good time to begin planting for outdoor displays.—D. B. CRANE.

A difference of opinion.—That opinions differ is of universal experience, finding expression in the old Latin proverb "Quot homines, tot sententiae," but you seldom find such a contrast as that contained in the two following extracts from letters from two Fellows recently received: "There is no other society in the world which gives you so

much for one guinea." "It seems to me I do not get much for my guinea." Let us reckon up, as far as possible in money value, what a Fellow of our society gets for his subscription in 1902: 1. Twenty-two Drill Hall meetings at 1s., £1 2s.; 2. Temple show, first day 7s. 6d., second 2s. 6d., third 1s., 11s.; 3. Rose show, first day 7s. 6d., second 2s. 6d., 10s.; 4. Fruit show, three days at 1s., 3s.; 5. Three issues of the journal at 7s. 6d., £1 2s. 6d.; total, £3 8s. 6d. (A £2 2s. Fellow gets three times, and a £4 4s. Fellow six times, these items.) Besides this there are certain things which cannot easily be assessed at an exact money value, for instance: 6. The use of the best horticultural library in England; 7. A share in the surplus plants; 8. Facilities of chemical analysis at reduced cost.—From the Royal Horticultural Society's Journal, April, 1902.

Tulipa Eichleri (Regel).—This rare and magnificent Tulip has many of the good attributes of its fellow-countryman, T. Greigi; indeed, I do not know which is the better of the two. In T. Greigi we have a gorgeous scarlet, occasionally orange colouring, the inner petals of the flowers being exceptionally massive. T. Eichleri has broad, glaucous leafage, a stem 18 inches high, and a highly refined crimson or scarlet-crimson flower measuring 4 inches in length and 6 inches to 8 inches in span when fully open. The outer petals are heavily flushed grey on the outside, a line of scarlet extending from apex to base. The most wonderful bit of colour is on the inside, a full rich glowing crimson. The outer petals have a black blotch at the base of each, which forms an orbicular disc, a prominent canary-yellow line dividing the two main colours. The inner petals, on the other hand, are rayed black, also with a canary-yellow dividing line, but the rays are shaped like three sides of a Maltese cross, the apical and broadest portion of the rays being broadly bifid. Looking into the centre of the flower one gets the unusual form of a three-rayed Maltese cross resting on a black disc, the edges in every case being sharply defined by the glistening yellow lines. The inner petals are broad, with a sharply incurved margin when they first open, and the outer petals are somewhat reflexed and pointed as in T. elegans. On the second and third day of opening the flower assumes the shape of a Tigridia, having a well-defined central cup or basin, whilst the upper halves of the petals stand out horizontally. It is a magnificent Tulip of fine stature and grand colour, a good grower, and one of the best of its kind.—GEO. B. MALLETT.

TREES AND SHRUBS.

CUPRESSUS LAWSONIANA

THIS handsome Cypress has been very noticeable this season by reason of the numerous male cones produced by some trees. About a month ago they had quite a rosy pink colour when seen from some distance and with the sun shining on them. No doubt the fine dry summer and autumn of last year had something to do with this in fully ripening all the tissues. Conifers generally are not a success on our limestone soil. This is particularly the case with all Piceas, except P. Pinsapo.

Cupressus lawsoniana does particularly well. We have some specimens fully 40 feet high, with branches quite to the ground. They have been planted exactly thirty-three years I am told; at any rate they were not 6 feet high when I came here in 1872. The circumference of the stem of the largest tree is over 4 feet at 3 feet from the ground. It has often occurred to me that in suitable positions, say, in the home covers, it would be a useful conifer to plant for estate purposes. Judging by the growth of our trees they might be planted no more than 8 feet apart for this purpose. An acre of land would give an immense quantity of timber of a useful size, in, say, thirty to forty years. I do not know from experience anything of its lasting properties, but from the external

appearance of the stems it is very solid looking. I believe it is easily propagated from seed, which of course is very necessary with any tree likely to be used for estate purposes. *C. lawsoniana* was introduced in 1854, by Messrs. Lawson, at that time a very famous firm of nurserymen in the Scottish metropolis, and is a native of Northern California.

Grimston.

H. J. CLAYTON.

FORSYTHIA SUSPENS. A.

THE various notes that have appeared in *THE GARDEN* about this delightful free-flowering shrub have exhausted nearly all that can be said in its favour, the only thing remaining being to point out how well it succeeds in London, that is, if given anything like favourable conditions. I am acquainted with a large specimen in a London back yard which clothes a fence fully exposed to the sun, and each recurring spring the Forsythia flowers profusely and forms an object of great beauty. Immediately the season of blooming is past the plant is severely pruned, the old and exhausted wood being cut out and the vigorous shoots spurred back to within three or four eyes of the base. This results in the production of long wand-like shoots, which are allowed to develop at will, hence they dispose themselves in a loose and informal way, and being from the position of the plant thoroughly ripened the spring display is in every way satisfactory. In direct contrast to this I was recently shown another large specimen, similarly situated, whose owner has carefully followed out the pruning instructions, but instead of doing it in the spring he had selected the autumn for the purpose and consequently cut away the best portion of the flowering wood. T.

BERBERIS DARWINII AT STREATHAM HALL.

I HAVE seen this noble spring-flowering shrub in many places from time to time, but the finest plant I have yet seen is at Streatham Hall, Exeter, the residence of Mrs. Thornton-West, and one of the most beautiful places in the favoured county of Devon. The specimen of *Berberis Darwinii* there planted somewhat high, and literally a mass of bloom, burst upon me the other day when, visiting there with a blaze of glory in a fine setting of green foliage, as in the foreground were two noble specimens of *Cupressus lawsoniana*, which formed a pleasing framework for the orange mass of colour behind. How I wished for a camera that this picture might have been transmitted to paper. The shrub is fully 20 feet broad, and proportionally thick and high. It evidently revelled in the soil of the high bank on which it is growing. This *Berberis* was also a fine feature at Bryanstone. *B. stenophylla*, a beautiful plant also, was rather later. A. DEAN.

DECIDUOUS SHRUBS FOR PILLARS AND ARCHES.

AS I write I see before me a grand specimen of a seedling from *Cydonia japonica* trained against a post. This plant is some 8 feet high and 6 feet through. I say it is trained, and by that I mean the post supports its main growths. Of course one would never think of training this lovely shrub in the formal, and to me hideous, way as usually seen against walls. Its colour is a charming carmine tint, and when in full blossom, in conjunction with the Plum and Pear trees around, it forms one of the most beautiful features of the garden. At the base are clumps of *Hemerocallis* and Chinese Peonies, which by their foliage give yet further variety of colouring in harmonious blending. The *Cydonia* has the summer growths pinched back, which assists the formation of flower buds considerably. One should be careful to obtain own root plants of these lovely *Cydonias*. Some gardeners graft them, which I think is a mistake. Another beautiful floral picture I saw recently in the form of an arch consisted of *Forsythia suspensa*. It was quite a natural arch, having no support whatever, and the fine growths were covered with the golden blossoms. Hedges of *F. viridissima*

are also just now a pretty feature, and would be far better as a bordering to a herbaceous garden than many things often used. The best plan to adopt as a preparation for an arch of flowering shrubs is to plant a strong young specimen on both sides of the walk, and to train them individually to a stake for a year or two until of sufficient height to meet across the path. They will then take care of themselves. Some of the old wood should be removed annually in order to keep up a supply of new. *Philadelphus* would make a fine subject for arches, and in fact any shrub that makes free and vigorous shoots. P.

THE STRAWBERRY.

(Continued from page 299.)

As has been said, two or three plantlets will develop at intervals along the long stalk-like growth, but it is advisable to layer only one of these (the one nearest to the parent plant is generally the best) if sufficient can be obtained without the others. There are, as a rule, plenty of runners, and unless the quantity required is out of proportion to the number of runner-bearing plants, there should be no need to layer any but good runners. Having selected a number of the best (it may be from six to ten or more), bring as many of the small pots as there are runners to be layered and plunge them in the ground conveniently around the parent plant. A simple and effectual method of securing the tiny plants in the small pots is to loop a piece of matting (shreds pulled from old mats are suitable) round the stalk about half an inch or less from the plantlet, and then press both ends of the matting together in the soil. In doing this the young plant will, of course, be brought down also. It should be so deep that its base is quite covered, but the centre of young and tender leaves is above the soil. One should make sure the runner is quite firmly fixed in its new quarters. If it is loose its rooting may be considerably retarded, for it is liable to be disturbed by rain and wind.

When layering—the term given to the practice of placing the runners in pots—is finished, the only labour they will occasion is that of watering, and it is important that they should never suffer in the least from the want of water. Except in wet weather it will be necessary to water them every day, and often twice a day, when they are moderately well rooted. The roots make rapid progress in the new soil, and, as the pots are but small, it is surprising how quickly the soil becomes

dry. Careful and regular watering will result in the production of vigorous and healthy plants; likely, when transferred to the open ground, to make a profitable plantation. Where possible, a small quarter of Strawberry plants should be reserved for the production of runners alone, and all the flowers be picked off. Runners of better quality and in greater quantity are then obtained than it is possible to get from plants that have fruited. Excellent runners, however, can be had from fruiting plants one and two years old. I mention the alternative plan as one likely to give even still better results.

VARIETIES.

The selection of suitable varieties of the Strawberry is naturally a matter of importance. Sir Joseph Paxton has long been a great favourite with market growers, yet it has to a great extent been superseded by *Royal Sovereign*, undoubtedly one of the most valuable Strawberries for general purposes now in cultivation. It is an early variety, and has to a great extent taken the place of the older early and smaller sorts. The fruits are large and handsome, although they cannot be said to be of quite first-rate flavour. They are, however, very good. The chief reason of the popularity of *Royal Sovereign* is no doubt due to the fact that it is such a vigorous grower and cropper. Good or bad seasons have apparently but little effect upon it. Noble is a very early fruit, ripening several days before *Royal Sovereign*, yet its flavour is so poor that it cannot be recommended. Keen's Seedling, also an early variety and one of the best of the older ones, has very sweet, medium-sized, dark-coloured fruits, which are abundantly produced. *La Grosse Sucrée*, ripening soon after *Royal Sovereign*, is an excellent sort, one that can always be relied upon, and, moreover, is of handsome appearance and first-rate flavour. The colour is a dark shining red, and the fruits are of good size. This should be largely planted; in fact, *Royal Sovereign* and *La Grosse Sucrée* are, in my opinion, the two best early Strawberries.

Those who are able to successfully cultivate *British Queen* should certainly do so, for it is generally considered to be the finest flavoured Strawberry grown, although personally I consider *Countess* to be equally good. *British Queen*, however, is in some soils and districts not a success, and until it has been tried it would be unwise to plant it largely. It is a mid-season variety. *Countess*, in season at the same time, is a large fruit, of a true conical shape, crimson colour, and richly flavoured. It bears good crops, and I think has few superiors. *Aromatic* and *Lord Suffield* are other worthy mid-

season kinds; the former has quite a distinct and pleasing flavour, the fruits are large and very freely produced. *Lord Suffield* is a handsome fruit of a crimson colour and good quality, in fact a reliable and excellent sort.

OF LATE STRAWBERRIES

those I would recommend are *Waterloo*, *Dr. Hogg*, *Veitch's Perfection*, and *A. F. Barron*. There are several others in general cultivation, but these I consider to be the best. *Waterloo* is, of course, easily recognised by its intensely dark colour, sometimes almost black. The fruits are large, richly and distinctly flavoured. *Veitch's Perfection* is, I believe, the result of a cross between *Waterloo* and another; it is also large, handsome, and the fruits are delicious. The variety *Dr. Hogg* produces large fruits, which are almost as deliciously flavoured as those of *British Queen*, while *A. F. Barron* is a valuable late sort, distinguished by its large, almost oblong-shaped, and rather light coloured fruits. A. P. H.

KITCHEN GARDEN.

PERMANENT ASPARAGUS BEDS.

FOR many years the culture of Asparagus has been a great feature in the *Syon House Gardens*, and at various times I have referred to the value of permanent beds where a large supply is needed every season. Our system is an old one, and I am afraid I have nothing new to relate as regards culture. When Asparagus is forced annually with leaves and manure its natural flavouring is preserved, and beds forced regularly respond to the forcing without much heat being applied. In making new Asparagus beds, I mean for forcing, the same results could be obtained from hot-water pipes with less outlay for labour, after the first expenditure, and the forcing could be done with ease. It is not convenient in all cases to have a separate boiler and connexions specially for this purpose, though for large supplies the cost would soon be repaid. At least three years growth is necessary before roots can be lifted for forcing, and the roots are useless afterwards. Doubtless there are other advantages with hot-water pipes, over leaves and manures, and that is earliness, as the beds can be started earlier and a regular heat maintained in severe weather, whereas leaves are more readily affected by cold and the growth is slower, but I think the produce is better, being more succulent.

The illustration will show our system of forcing, a suitable one for gardens where there are many forest tree leaves. There is no expense other than labour in placing the materials in position, and in any case the heating materials used must be cleared away. Permanent beds last many years if well looked after in the shape of ample moisture during later growth, that is, when cutting ceases and the plant is building up the crown growths for another season. When making new beds intended for annual forcing make them in the garden where carting can be done close to them and thus prevent carrying litter from one part to another.

FORMATION OF THE BEDS.

Ours are what may be called fixtures, having brick sides, though it is only right to add I have forced ordinary beds where there are wide alleys, by merely digging out the alleys and filling in with fermenting material, although I would recommend what we term permanent beds. Once these are made there is little trouble afterwards. As regards the size and number of beds this must be governed by the quantity of "grass" required. In our own case we want Asparagus for the first six months of the year in good quantity, from Christmas to mid-summer, and though we get the first six weeks supply from lifted roots, the permanent beds fill in a period of about ten weeks, and should the ordinary season be late these beds are invaluable, as they yield freely until the open beds are ready.



ASPARAGUS BED ABOUT TWELVE YEARS OLD IN THE GARDENS OF SYON HOUSE, MIDDLESEX.

Our beds are 4 feet wide, 50 feet long, and have 3-foot alleys between them. The alleys are 3 feet deep, and when these are filled there is nearly 5 feet of fermenting material, as we have nearly 2 feet above the beds. No matter how firmly placed there is great shrinkage. There are three rows of plants in each bed; this is quite close enough. Where space is no consideration two would be ample, and I would advise planting at the start in preference to sowing the seed. The walls are only $4\frac{1}{2}$ inches thick and holes are made in them so as to allow the warmth to reach the roots freely. On the top of the walls we place a framework of wood, merely wooden boards bolted together and supported by cross pieces. Formerly we used sliding shutters over the beds, but now merely cover with dry litter, Bracken, or anything light, as it is desirable to allow the "grass" to get a little colour in fine weather. Of course, if glass or frames were used, it would be better to "green" the tops of the growth, but I do not advise it unless hot-water pipes were used, as there are constant breakages. I need hardly say the soil inside the beds is good at the start; it was ordinary garden soil, well enriched with manure, dug or trenched 3 feet deep, the rough material being placed in the bottom for drainage.

When manure is the fermenting material less depth between the beds in the alleys would suffice, but it would need more constant renewal and should not be allowed to heat too much. In our own case the old leaf-soil, after being in the alleys nearly twelve months, is cleared out in October, and is then in good condition, as the liquid manure the beds receive finds its way to the alleys and enriches the decaying leaves there more quickly. The new leaves are then wheeled into the alleys in November, and as each layer of leaves is placed in position they are well trodden. I do not advise placing all in as they are gathered, but to place in bulk for a time; they then get heated, and can be made more solid than when used in a dry or fresh state. I prefer to do the filling in at the end of November; the boards are then placed in position and the leaves filled in to the top. In two or three weeks it is necessary to add more material, and if the Asparagus is required early I place warm litter over the surface of the beds, and cover this with rough covers to throw off rain or snow, but otherwise dry litter that is soon removed when the cutting is done is preferable.

We cut our first supplies at the end of January or early in February, according to the weather, and from the middle of February with six beds being forced we are able to cut daily.

I have tried resting three beds one season and cutting hard the next, but there is no gain in this. I find it best to force all, and take a moderate crop, and the supply, as I have previously noted, lasts ten weeks or more. With plants grown thus there must be ample feeding in the summer. We give liberal supplies of liquid manure, or failing this artificial foods, and well water them in with the hose. Salt and soot are applied as soon as the cutting ceases, and a mulch of decayed manure is given on the surface. Some of our beds have been regularly forced for many years, and in the early autumn the tops are cut and the beds freely exposed; it is well not to allow any seed berries to fall, and when cutting the grass remove every bit of it. That not large enough for use as a vegetable is used for soups. I would also add that the beds are raised 18 inches above the surface, and there is a strong coping on the walls. This is necessary to support the walls when filling up.

FORCING SEAKALE.

FEW forced vegetables are more delicious than Seakale, and where roots are numerous a supply may be kept up throughout a considerable period. Where only a limited quantity is required the Mushroom house is a good place in which to force this vegetable. That shown in the accompanying illustration was grown in a box in a Mushroom house. As complete darkness and a temperature of about 60° are necessary, the Mushroom house is an ideal place for Seakale forcing.

G. WYTHES.

AMERICAN NOTES.

GROWING WATER LILIES FROM SEED.

THE process of growing Water Lilies from seed is not very tedious, and may be done as successfully in the humblest home as in the finest conservatory. I submit a few notes for the benefit of those who desire to try growing them from seed, but who do not have access to a greenhouse.

Hardy Nymphaeas.—An important item in this connexion is fresh seed. The best time to sow it is in the autumn, soon after maturing. Self-sown seeds nearly all germinate. When this has been omitted they can be sown out of doors in either natural or artificial ponds, in March or early April. Select a sunny, sheltered place where the water is 6 inches or 8 inches deep, with good soil bottom. Plant each seed by pressing it into the soil and covering it a quarter of an inch deep.

Protect from fish and water-fowls. I prefer to sow in boxes of soil sunk in the water. Then in case of a rise or fall of the water the boxes can be dragged in or out, keeping the young Lilies at a congenial depth until they become strong enough to battle against drought and flood. If one has no ponds, seed may be sown in tubs filled half full of soil and to the brim with water. With the warm days of spring and early summer most of the seed will germinate and the plants may remain in the seed beds until the following spring.

Nelumbiums may be planted in exactly the same way as hardy *Nymphaeas*. The seed should first have a hole filed through the hard shell to allow the water to penetrate to the kernel, else they may lie in the water indefinitely without germinating.

Tender Nymphaeas.—In the absence of a greenhouse probably the best way to sow these is in a tub of water in a bay window or other light window near to a heater. With the majority of us, probably the kitchen window with a southern exposure and close to the range is most convenient. The time for sowing these is now at hand in order to have early bloom. Fill some 5-inch pots with garden soil, sprinkle the seeds on, press down firmly and cover one-eighth of an inch. Sand is preferred for covering, as it holds the soil in place and prevents the seeds from floating. Two or three pots will be sufficient for a packet of seed. Set the pots in a tub and pour in water until the pots are covered 4 inches or 5 inches. Keep the water at a temperature of 70°—a little higher in the daytime would be better—and some of the varieties will be up within two weeks. Others will linger for a month. When the first leaves begin to float transplant them, giving each plant a 2-inch pot. In course of a month they will need another shift and may call for more tub room before removing to the ponds out of doors in June. Persons not having space enough to admit a tub can sow the seeds in pails, bowls, pans, or any convenient and clean vessel that will hold water, preserving the same idea as given above.

Seeds of tender Water Lilies may also be sown out of doors after the manner recommended for hardy ones, except they should not be planted until danger of frost is over and the water becomes warm. This throws the blooming period so late in the autumn, however, it is but little practised, except to grow the tubers to keep over winter for another season.

Victoria Regia and *V. Randi* require a temperature of 90°, and an attempt to grow them without a greenhouse generally ends in failure. *V. Trickeri* (*Cruziana*) will germinate under the same conditions as the tender *Nymphaeas*.

Varieties.—A word on this might not be out of place just here. All seed cannot be relied on as producing absolutely the same variety as its parent. All varieties of Water Lilies do not mature seed; some seeds are slow to germinate. For these reasons the practice of reproducing Water Lilies from seed is not in general favour. A sufficient degree of success may be gained, however, to liberally reward one's efforts. The varieties that do best from seed are: Tender—*Victoria Regia* and its varieties; *N. Zanzibarensis* and its varieties; *N. dentata*, *N. O'Marana*, *N. Lotus*, *N. gracilis*, *N. scutifolia*, *N. caerulea*. Hardy—*N. odorata* and most of its varieties; *N. tuberosa* and its varieties; the *Nelumbiums*.—(Geo. B. MOULDER, in *American Gardening*.)

XANTHOCERAS SORBIFOLIA.—A HANDSOME TREE FOR A LAWN.

Xanthoceras sorbifolia is a tree well adapted to lawn decoration anywhere except in the most northern regions of New England, being quite hardy as far up as Massachusetts. It is not over particular as to soil and prefers a sunny position. It is a deciduous small tree, very effective with its flowers, white, red streaked at the base of each petal.

It is a native of Northern China, related to the Bladder Nuts and Horse Chestnuts, and further interesting as being the only representative of the genus to which it belongs. Its name is given for the presence, between the petals, of curious yellow



SEAKALE FORCED IN BOX IN MUSHROOM HOUSE.

horn-shaped glands. It is one of the most attractive of the hardy plants which our gardens owe to Northern China, the region from which many of the most beautiful trees and shrubs in cultivation have been brought, and was discovered seventy years ago by the German botanist Bunge, who accompanied a Russian mission which travelled overland from St. Petersburg to Peking. It was not, however, introduced into our gardens until nearly forty years later, when the French missionary David sent it to the Jardin des Plantes, in Paris.

In spite of its hardness and the beauty of its flowers *Xanthoceras* is still rare in gardens. The opposite pinnate leaves are 8 inches to 12 inches in length; the leaflets are alternate, linear-oblong, acute, coarsely serrate, dark green and glossy on the upper surface and pale on the lower. The flowers are produced in great profusion in lateral racemes 8 inches or 12 inches long, appearing as the leaves are unfolding. The fruit, which is a Pear-shaped capsule, not unlike that of some of the smooth-fruited Horse Chestnuts in general appearance, finally splits into three valves, and contains a number of globose, nearly black, shining seeds half an inch in diameter.

Most of the plants which have been tried in this country have perished sooner or later, and it is unusual to find either here or in Europe so large, vigorous, and healthy a specimen as the one at Desoris, New York.

In the *Garden and Forest* in 1893 we read: "From the Abbé David's notes we learn that *Xanthoceras* is a tree 15 feet to 18 feet high, and exceedingly rare in those parts of China and Mongolia which he visited, that it is cultivated in the gardens of Peking, and that the seeds are eaten by the Chinese."—*American Gardening*.

WHITE CORALILLA (PORANA PANICULATA).

THIS is a favourite climber in Jamaica. Climbing white Lilac is its best and shortest description. It has a delicious scent, not quite that of Lilac, and yet not altogether unlike it. The leaves are glaucous, with a powdery surface, and add greatly to the beauty of the milk white flowers, the colour relation being most harmonious. The sprays as they are seen in the basket show the various arrangements to which as a cut flower this Coralilla lends itself. The stalks are stiff and wiry, and terminal sprays will either stand up or hang down. The lateral panicles and the stiffness of their stalks are clearly shown in the picture. The whole flower spray, including terminal and laterals, runs often to several feet. Rather short pieces here have been chosen for the illustration. The basket is 21 inches long, and as it stands on the table measures something over 9 inches high at the ends and 8 inches in the dip by the handle. This will give the scale.

Porana—which means traveller—is, as its name implies, a climber of riotous growth. Left to itself the quick-growing sprays drop upon the ground and root so that it soon takes possession of a large tract if not looked after. It climbs to the top of the highest trees. Its chief use in the garden is to cover walls and fences, and we like to have it within reasonable reach for picking. By affinity it is a *Convolvulus*, but Lilac is what it looks like. W. J.

FRITILLARIAS AND THEIR CULTURE.—I.

(Continued from page 305.)

GROUP III.—F. MELEAGRIS AND ITS ALLIES.

THIS group contains a number of important garden plants. They are low-growing herbs, ranging from a few inches to 2 feet in height; stems slender, often curiously twisted, bearing nodding balloon-shaped inflated flowers, generally and very beautifully netted with some contrasting colour. Their bulbs are round, and are composed of two thick, starchy scales,

with a growing bud at the junction of the two halves. Mice, rats, and other rodents are very fond of these bulbs, and they should not be planted in places known to be infested with these depredators.

Culturally, these *Fritillarias* need a light soil and a warm position; the dwarfer ones grow best on rockery slopes, not too steep; the taller and stronger plants will grow anywhere—the herbaceous border, the wild garden, the woodland or shrub-beries are all suitable places; they grow alike in shade and sunshine, and they are what I call sociable bulbs, *e.g.*, they thrive so much the better in turf or among plants such as would form a carpet over them and assist them at a time when they are helpless by withdrawing moisture from the scale bases.

A poor soil where grasses struggle to keep alive will not support *Fritillarias*; a light, not too rich, soil will grow them well enough. They may be planted beneath deciduous trees if grasses grow there also, but they will not succeed in places where the grass does not grow. A few species are rare garden plants; these, of course, would find a place proportionate to their worth in the rare plant border.

F. Meleagris, the popular or variable "Snake's Head *Fritillaria*," scarcely needs either description or praise. The flowers range in colour from almost pure white through shades of grey, brown, chocolate, rose, purple, and maroon. They are freely produced, generally in ones and twos, and they average 1 inch to 2 inches in length and span. The bulbs being inexpensive and easy to establish, it is a plant one can confidently recommend for naturalising. It seeds freely and increases fairly well by means of offsets, and, being a British plant, cannot fail to do well. Once established and left to themselves, they will not maintain so great a range of colours in the second and third generations as they now embrace, these being the results of careful selection by wholesale growers. A very wet or very dry soil will not suit them, and the difficulty with mice must have frequent attention. A great many coloured forms have received descriptive names at the hands of their raisers; *alba*, the earliest to flower, *contorta* (white), *rosea*, *rubra*, *purpurea*, *flore-pleno*, &c., describe themselves; one selection known as *latifolia*, really a Caucasian species, originally described by Willd., but now merged into the *Meleagris* group by intercrossing, and collectively called "the broad-leaved *Fritillaria*," are very vigorous and varied in colour. They make better garden



WHITE CORALILLA (*PORANA PANICULATA*).

plants than *F. Meleagris* proper, succeeding best in clumps of twenty or more. They do not naturalise so readily as the narrow-leaved types, as they are gross feeders and speedily resent neglect.

F. aurea (Schott.).—An Asia Minor plant, and one of the most fascinating of all *Fritillarias*, grows but a few inches high, and bears a solitary, pendulous, balloon-shaped flower from 1 inch to 2 inches across, golden-yellow in colour, faintly netted on both surfaces with maroon tracery, but more heavily flecked maroon on the outside. The outer base of the flower is also flushed with the same colour. The bulbs are scarcely larger than a good-sized Pea, but they are wonderfully tenacious of life. This plant is seen to the best advantage when planted in breadths on gentle slopes or raised borders, sowing the bulbs broadcast as one would do Peas. The plant is very hardy, and the bulbs should not be lifted to store. They attain much greater size and flower in greater profusion when allowed to remain in the ground.

G. B. MALLETT.

(To be continued.)

TREES AND SHRUBS FOR ENGLISH GARDENS.

SINCE Loudon published his great work on the trees and shrubs grown in Britain, now more than sixty years ago, they have greatly increased in number. There is now available



THE WAYFARING TREE (VIBURNUM LANTANA) IN FLOWER.

for the planter a splendid host of hardy woody plants to select from, comprising things that are suitable for almost every variety of position and aspect, soil and climate. Yet the interest taken in trees and shrubs is neither so general nor so comprehensive as one might expect; certainly it has not increased since London's time in the same ratio as the number of introduced exotic shrubs. Nurserymen will tell you that it "does not pay" to keep up large collections; the general demand is for a few popular things.

Surprising ignorance exists among those who have the management of gardens of the wealth of trees and shrubs. One need never go far to see evidence of this. Who, indeed, is not familiar with the typical "mixed shrubbery" of English gardens, both public and private, that depressing repetition of Laurel, Pontic Rhododendron, Privet, Aucuba, and such like. It is an arrangement that gives a bank of greenery—nothing else. There is nothing in it that invites one to examine it in detail. The greater prominence, however, that the horticultural press is giving to this branch of gardening will, it is to be hoped, bring about a change. However fashion and taste may alter, the hardy trees and shrubs must always constitute the most important feature of the garden. In other words, they must always form the background or framework, if nothing more, for all other branches of outdoor gardening.

At present, trees in gardens are, as a rule, better cared for and more interesting than the shrubs. Their size protects them in a great measure from the indiscriminate huddling together that their dwarfier allies are often subjected to. But the same failure to appreciate to the full the abundant variety and beauty of hardy trees is as apparent as it is among shrubs. The conifer "craze," which was at its height thirty to forty years ago, did good in introducing to the gardens and parks of Britain many noble and beautiful trees. But conifer planting was overdone. Many members of this family are somewhat particular in their

requirements as to soil and other conditions, and care and thought are needed in selecting conifers for any given place. Their indiscriminate planting, however, three or four decades ago not only caused what has since proved to be a loss of much time and money, but, still worse, it led also to the neglect of the hardy flowering trees and shrubs, which, after all, must form the most important and most permanent feature of a garden. Among the trees that have never been adequately represented may be mentioned the magnificent Oaks, Ashes, Maples, Hickories, Birches, Magnolias, and Amelanchiers of North America; the Cherries, Peaches, Magnolias, Crabs, Thorns, White-beam trees, Alders, and Walnuts of Northern Asia; the Limes of Eastern Europe; as well as many other fine trees like the Liquidambar and Tulip Tree. Many shrubs have never received the notice they deserve. The Wayfaring Tree (see illustration) is one.

THE ARRANGEMENT OF TREES AND SHRUBS.

The art of arranging plants to the best advantage, both as regards health and general effect, is, to judge from appearances, not widespread. Yet it is the most important of all matters connected with the use of trees and shrubs in gardens. The choicest and most beautiful of plants are ineffective if the arrangement and treatment are unsuitable. The commonest fault in planting shrubberies and groups is the absence of any leading idea in regard to the disposition of the material that has to be used. Often the sole object appears to be to fill up the space with little regard to anything more than the size of the plants at the time they are put out. A temporary symmetry is all that is aimed at. Yet nothing gets out of hand sooner than a shrubbery so planted. In the perfectly planted shrubbery or group every specimen tells its own tale. Above all, indiscriminate mixing of the material to be used should be avoided. This so often produces the monotonous effect seen in shrubberies.

Undoubtedly the best way of planting shrubs

is in bold and informal grouping; and this for several reasons. In the first place, the beauty of all plants, more especially of the smaller ones, is greatly increased when they are planted in the mass; and, in the second, they do not afterwards give so much trouble in thinning out. If the plants are allowed to get crowded the effect is not spoilt as it is where shrubs are mixed indiscriminately, whilst if trouble is taken to periodically space them out as they increase in size the general scheme of arrangement is not disturbed. Again, the cultivation of a collection of shrubs is more satisfactory where the grouping system is adopted, for it allows each species to get the most suitable conditions, especially in regard to such matters as soil and aspect. Nor are plants so likely to suffer from the encroachments of greedy neighbours. In how many gardens are one's gardening instincts hurt by seeing (for instance) a Darwin's Barberry in hopeless conflict with a Cherry Laurel, or a Privet smothering out some choicer but less vigorous neighbour! Where beds are cut out on lawns the arrangement necessarily has to be more formal, but there exists the same or a greater necessity for using plants in the mass as opposed to the mixing of various things.

All this, of course, does not preclude the judicious association of two or more species with a view to enhancing each other's attractions. To the experienced planter many such arrangements suggest themselves. Among shrubs with variegated or coloured foliage, for instance, an association of golden and purple is very effective, such as *Prunus Pissardi* with an undergrowth of *Cornus Spaethii*. Shrubs with flowers of the same purple and yellow colours, and blooming simultaneously, also make bright effects. Nothing in the earlier part of the year is more charming than a group of the Japanese Witch-Hazel (*Hamamelis arborea*), grown as standards rising out of a mass of the fragrant purple Mezereum (*Daphne Mezereum*). Another pretty combination is *Berberis Aquifolium* and *Jasminum nudiflorum*. The flower-laden branches of the latter (themselves leafless at the flowering time) are furnished with a very effective background in the purple-tinted foliage of the *Berberis*. Nearly all shrubs or small trees of spare or erect habit are better planted thinly enough to allow of shrubs growing beneath them. But spreading shrubs like the *Philadelphus* or *Diervillas* are not adapted for associating with other things.

All deciduous trees and shrubs that flower early in the year, such as *Forsythia*, *Daphne Mezereum*, *Witch-Hazels*, *Almonds*, and *Peaches* should have a background of evergreen. Nowhere do the *Almonds* and *Peaches* look so lovely as when they are planted in a group with a mass of *Holly*, *Holm Oak*, *Yew*, or similar evergreen behind them.

THE ABUSE OF VARIEGATED PLANTS.

One of the most curious of modern crazes in gardening is the fashion for variegated plants. Some of the greatest rubbish that has ever been foisted on the planter has been in the shape of these plants. Really well variegated shrubs are valuable; shrubs, that is, whose foliage has the white, red, or golden markings clear, abundant, and well defined. But the practice has arisen of naming and putting on the market any plant which shows the least variegation, no matter how spotty and meagre it may be. It is a good plan never to buy new

variegated shrubs on the strength of catalogue descriptions. See them first.

There is no doubt that trees and shrubs with golden, purple, or parti-coloured leaves are of the greatest use in gardens when used in moderation and in their proper place. They can be planted more freely and in a greater proportion in small enclosures like the ordinary villa garden than they can where broad landscape effects are obtainable. The remarks that have already been made in regard to the massing of single species of shrubs apply with particular force to variegated kinds. They are infinitely better when used to produce a few large, broad masses of colour than they are sprinkled about amongst ordinary green-leaved plants. The variegated Negundo, one of the brightest and best of variegated trees, has been planted so freely in some places as to become wearisome. The golden-leaved form of *Ligustrum ovalifolium*—fatally easy of propagation and cultivation—whilst undoubtedly the best of variegated Privets, and very useful in towns and dull, bricked-in places, is in danger of becoming a nuisance elsewhere. *Prunus Pissardi*, lovely as it is in the tender ruby-red of its young foliage, turns a heavy, dull purple later on, and is to my mind taking too prominent a place in gardens. On the whole, it may be said that while the prevailing tone of the garden should be a restful green, variegated plants are useful for producing occasional bright effects, especially at seasons when flowers are scarce out of doors.

W. J. BEAN.

(To be continued.)

NOTES ON HARDY PLANTS.

MUSCARI HELDREICHI.

ONE of the earliest of the *Muscari* or Grape Hyacinths, this is also one of the most beautiful, and its increase, like that of most others of the genus, is so rapid that one would expect to find it even cheaper than it is. It has good-sized flowers of a pretty light blue, edged with white and produced in a raceme of a fair length. I first procured it by way of Italy, but hearing that a better type was to be procured in a Dutch nursery I obtained it from there, with the result that there was no visible difference between the plants from the different sources. I have seen it with longer spikes than I can grow here, but I attribute this to my cultivating it in light soil, where the *Muscari* generally increase freely, though I think they are usually finer in a good loam. It is a pleasing Grape Hyacinth, which associates well with any of the others, although earlier than most of these.

S. ARNOTT.

SENECIO MACROPHYLLUS.

THERE are many plants of bold form and important aspect that are either a little too coarse for association with the best plants in a mixed border or are wanting in the attractiveness of bright colour, but that are delightful things to come upon in a half wild place. Such an one is this large *Senecio*,

an excellent plant for rough ground in company with *Crambes* and *Rheums* and plants of a like nature.

IRIS WILLMOTTIANA.

ONE can hardly have too many *Irises*, especially of those which bloom early in the year, and a new one of merit is always worth securing if possible. Among those which have flowered here for the first time, and which has withstood the past winter, was *Iris willmottiana*, a beautiful little plant, which opened its first flowers in the earliest days of April. It has been grown in sandy peat with a south-west exposure, and passed through the winter with perfect safety, although unprotected in any way. It is a delightful little *Iris* with

linear, and of a light green colour. Out of the centre of the foliage comes the sessile umbel of short pedicelled erect flowers, resembling in shape very much those of our *Crocus* when about half expanded, but when fully opened they are salver-shaped, with slender, rather long tubes. The colour of the flowers is pure white, and they are deliciously scented, reminding one of the scent of *Lilium candidum*. According to Mrs. Austin, a great authority on Californian plants, it grows in dry sandy soil in valleys and on hillsides of California, while Mr. E. L. Greene found it in moist alkaline soil on the banks of the Shasta River, California. Under cultivation it seems to succeed well as a pot plant. Several bulbs can be grown together in a pot or pan in sandy soil or a mixture of leaf-mould, loam, and sand, or planted out in a sunny corner of the rockery or the border. If planted or potted during the early autumn when the bulbs are dormant flowers appear in March and April. Apart from their great beauty, they are exceedingly interesting, and a few will scent a whole room. *Leucocrinum*, or, as it is also named, *Weldenia*, is only represented by a single species—*Weldenia candida* of Schultesfil—as it has never been found again, and is evidently identical with the above, especially as plants sent to us under the name of *Leucocrinum candidum* have never differed from those of the well-known species.

G. R.

HESPEROCALLIS UNDU-LATA.

THIS is one of the most beautiful plants of the Lily order, but unfortunately under cultivation it does not always succeed as one could wish. Besides, the supply of well-matured large-sized bulbs has of late years run very short, and plants in flower are consequently rarely seen. The bulb of this monotypic genus is ovate, resembling that of some of the trumpet *Narcissi*. The linear fleshy leaves are distinctly wavy at the margin, from 9 inches to 1 foot long and about half an inch wide; the stem is about 1 foot high, and bears several white flowers, of which the perianth is funnel-shaped; the tube is rather long and slender. It flowers usually during March and April, but sometimes later. The most provoking part is that very often perfectly large-sized and apparently well-ripened bulbs refuse to grow, or are most erratic by growing and flowering quite out of season, or a bulb will remain dormant in the ground and grow when one has given up all hope of ever seeing it in beauty again. It should be potted up during the late autumn in a mixture of soil consisting of about half of loam and sand and half of crushed granite or other hard stone. The soil should at first be kept perfectly dry till about the

New Year, when now and then water should be given. If planted out of doors (it is perfectly hardy) it is best planted in a warm position against a south wall or in a rock garden in a similar mixture of soil, and the bulbs should be lifted immediately when ripe and stored away in dry sand under glass exposed to the sun to give them a good baking.

In America its appropriate name is Desert Lily, no doubt because it grows in the dry, arid soil of Colorado. Collectors tell me that the ground in which it grows is so hard when the bulbs are mature that even with a pick it is most difficult to get at them, and they are therefore rarely collected until later on, when the autumn rains soften the soil and make collecting



SENECIO MACROPHYLLUS: ITS VALUE ON EDGE OF WOODLAND.

pale lilac standards and lilac falls, with a large white blotch and spots of rather deep blue near the blotch. It is only about 5 inches high, and, like many of the dwarf *Irises*, is very pretty in its habit of growth.

S. ARNOTT.

Rosedene, Carsehorn, by Dumfries, N.E.

LEUCOCRINUM MONTANUM.

THIS is a very pretty and distinct spring flower of the Lily order. If better known I feel sure it would be a great favourite with lovers of this class of plants. It has a whitish, fleshy root or bulb about 2 inches long, which produces, usually in March, several erect and stiff leaves about 9 inches to 1 foot long and half an inch broad, narrow and

less difficult. Like many other bulbs of the Lily tribe, they are regarded as food by the Indians. G. REUTHE.

CARDAMINE ROTUNDIFOLIA.

WHEN March comes round this Cardamine never fails to flower, and one would not willingly be without its white flowers, even although the whole plant is not one of the choicest, if we judge by the standards of plants which follow. If, however, we take it and look at it by the side of others in bloom at the same time we find it has merits of some kind. For one thing it is earlier than the Arabis, another white crucifer, and it will also do for supplying a picking of flowers from the open earlier than anything of its class with white blooms. It has also the advantage of growing well in a shady place and of flowering for a long time at a stretch. Then, it will also grow in poor, rich, light, or heavy soil, and is readily increased by division. S. A.

TROPICAL FRUITS FOR ENGLISH GARDENS.

(Continued from page 303.)

BANANAS.

BANANAS are largely consumed by the inhabitants of tropical countries, being excellent food. They are also now an important article of food in temperate countries, large quantities of them being imported all the year round from the West Indies and the Canary Islands for consumption in the British Islands. They are cheap, conveniently portable, and so wholesome that they will soon rival if they do not surpass the Orange and even the Apple for general use among all classes.

The imported Banana, from the fact that it has to be cut before it is ripe, and for other reasons, is necessarily inferior in quality to

fruit that has been allowed to mature on the plant. Consequently high-class Bananas can only be obtained in this country from home-grown plants. A good Banana is one of the most enjoyable of fruits. At Kew and in a few other large gardens in England where they can be conveniently cultivated they are grown to perfection. There are numerous varieties, varying in size from 9 inches in length by 3 inches in diameter to dainty little thin-skinned fruits no bigger than a man's thumb. They are either angular or smooth and regular, their colour is either yellow or russet-red, and their flesh resembles that of a ripe Apricot in colour and mellowness or is pale yellow and less juicy. Some sorts are said to be of a bright green colour when ripe.

There are about forty species of Musa, only few of which have edible fruits, the best of these being *M. sapientum*, of which there are many varieties, and *M. Cavendishii* or *chinensis*, the Chinese Banana. The Plantain is distinguished only by having fruits that require to be cooked to be palatable.

The best of those tried at Kew are Champa, Medji, Raja, Ramkela, Guindy, Arracan, Martaban, and Ladies' Finger. Other sorts have recently been obtained from the Malay Archipelago and are being tested at Kew and also in the West Indies. The Chinese Banana is the principal variety grown in the Canary Islands; it is also a favourite with English cultivators, because of its comparatively dwarf stature and the enormous size of its bunch of fruits, weighing nearly a hundredweight and bearing about 250 "fingers" (fruits). Such a bunch may be developed in a house not more than 10 feet high. Each stem produces one bunch of fruit and then dies, to be succeeded by several other stems from the same root-stock. It is not advisable to allow more than one stem to each stool, the others may be removed and grown singly in pots or tubs. The bunches should be cut when the fruits begin to change colour and hung in a warm room to ripen. They are at their best when fairly soft to the touch.

First-rate results may be had from plants grown in large pots or tubs. The root-system of a Musa is large, and therefore a liberal allowance of space is necessary. They like a strong loamy soil and liberal supplies of manure. All the forms of *M. sapientum* require a tropical temperature; the Chinese Banana may be grown in an intermediate temperature, but it is at its best only in a house where the winter temperature does not fall below 60° and in summer not lower than 70°. If a border can be afforded for Musas it should be at least 3 feet deep, and contain 2 feet of rich soil on 1 foot of drainage. The soil should be renewed for every fresh plantation. Musas enjoy plenty of sunshine and a liberal supply of water at all times.

TREE TOMATO.

A Solanum-like plant, *Cyphomandra betacea*, which has become popular in some tropical and sub-tropical countries where the fruits are eaten raw or made into a conserve. It is a native of Peru, where it is known as Tomato de la Paz. The fruits are sometimes offered for sale by



PRIMULA ALLIONII (LIFE SIZE).

London dealers. As with the Tomato proper, a liking for the Tree Tomato has to be acquired. They are really palatable and refreshing to those who have learnt to appreciate them. Their flavour is that of the Sweet-Cup (*Passiflora edulis*) with a suspicion of raw Potato added. The plant grows readily from seeds, and if planted in a warm house in good loam it forms in about two years a big herbaceous shrub not unlike a *Datura*, copiously branched, and bearing pendent clusters of egg-shaped orange-yellow fruits 2½ inches long; the thick leathery rind encloses a soft pulp, which can be easily sucked or squeezed into the mouth. Several hundreds of fruits are borne by a single plant. They keep well, and no doubt would travel easily.

With regard to this plant we have yet to teach English fruit eaters that it deserves a place among dessert fruits. In hot weather it is decidedly refreshing. Twenty years ago it was difficult to get many people to eat Tomatoes, and most of those who did partook of them only in a cooked state. It is very different now. In tropical countries the Tree Tomato is rapidly growing in popularity.

THE POMEGRANATE.

Fruits are rarely produced by the Pomegranate (*Punica granatum*) in England, where it is grown only as an attractive flowering shrub; but in countries where the sun has more power it fruits as freely as the Apple does with us. It has been cultivated by man from an early period, being frequently mentioned in the Bible. It is wild in Cabul and Persia, and is cultivated throughout the warmer regions of the globe. The best varieties are propagated by grafting. Seedlings only should be used as stocks for the several first-rate varieties which bear fruits containing plenty of pulp. There is a seedless variety known to Indian cultivators. Captain Burton, in his "Pilgrimage to El Medina and Mecca," describes three which he met with in Arabia: "The best is Shâmi; it is red outside and very sweet, almost stoneless, like a Muscat Grape, deliciously perfumed, and as large as an infant's head. Turki is large and of a white colour. Misri has a greenish rind and a somewhat sub-acid and harsh flavour."

This fruit is worthy the attention of the English fruit specialist. It is not difficult to picture a light house with a southern aspect filled with Pomegranates trained as espaliers close to the glass in the same manner as Peach trees are. They would certainly flower freely, as they do against a south wall outside, and if, by a little skilful manipulation, a good



PRIMULA CLUSIANA (LIFE SIZE).

set of fruit could be obtained, they would, when ripe, be a "beautiful picture of bright green leaves and solid crimson fruit of the richest hue and most admirable shape." A good Pomegranate is good eating, but a seedless one is much to be preferred to those one usually gets from the shops, which have been compared to a bag of moistened shot. Canon Ellacombe states that in 1876 he counted more than sixty ripe fruits on a Pomegranate at Bath, which demonstrates that sunshine sufficient to mature the fruit can be obtained in some parts at any rate of these islands. W. W.

(To be continued.)

THE MOUNTAIN PRIMULAS.

(Continued from page 272.)

II.—SAXATILE OR ROCK-LOVING SPECIES.

THIS section is essentially European, comprising exclusively the species of the *Auricula* group which are found in the Alps and the mountains of central and southern Europe. The type of this group is *Primula Auricula* (see page 272), the parent of all the garden *Auriculas*. All the species are furnished with stout fleshy roots, having, like others of the *Primulaceae*, a pleasant anise-like smell. These roots are reservoirs of sap and moisture; their extremities and their rootlets are thrust far down into the interstices of the rocks, searching for moisture in their deepest recesses, and then developing a thick wig-like mass of rootlets. Their rooting arrangement is thus specially fitted for rocky fissures or walls, where they can resist drought, having these reservoirs of sap hidden away in their roots. They only need for their nourishment a little vegetable humus or mould, and all stagnant moisture must be avoided or they will rot. In pot culture there must be ample drainage, which entails regular and frequent watering. They like a horizontal position in the cracks of rocks and walls, in full light, and greatly dislike fog and smoke.

The following is a description, arranged alphabetically, of the species of this group that are in cultivation, with their hybrids and varieties:—

P. admontensis (Guss.) is simply a *P. clusiana* with denticulate leaves, a character which also occurs not unfrequently in the type.

P. Allionii (Lois.) is a rare plant of the Alps of Piedmont and the Maritime Alps, where it grows at a height of 4,000 feet to 5,000 feet in the fissures of calcareous rocks of the Caros and the Fenêtre Alps. It grows in close, short, dwarf tufts, and retains the dried leaves at the base, which form greyish cushions. The green leaves are few in number, viscid, slightly denticulate, and faintly margined at the edge; they are collected in small rosettes, from which the flowers rise, one or two upon so short a peduncle that they are almost hidden among the leaves; the corolla is lilac-rose, with emarginate lobes. This species is very near *P. tyrolensis*, from which it is distinguished by its opaque and almost entire leaves, by the sharper lobes of the calyx, and by the lobes of the corolla being not bifid, but only emarginate. It is rare in cultivation. I have only seen it at

Miss Willmott's at Warley, where it is grown in a cold frame and in well-drained pots, furnished with small pieces of limestone. It is shown in the "Icones" of Reichenbach, XVII., t. 60.

P. alpina (Schleich) syn. *P. Rhaetica* (Reich.) is figured in the "Icones" of Reichenbach, page 1121. It is a natural hybrid of *P. Auricula* and *viscosa*, inclining more to *Auricula*; the leaves are those of *Auricula*, but the flowers,

which countries they were already established in the sixteenth century.† Mr. Arends, at Ronsdorf, has made a speciality of *Primula Arctotis*, and has produced some beautiful varieties.§ The type of *P. Arctotis* of Kerner has velvety red-brown flowers, but rose and yellow colourings also occur among the natural varieties.

P. Auricula (L.) syn. *P. lutea* (Vill.), a well-known plant in gardens, where it is seldom seen in the wild form, this having been so generally modified by cultivation. It grows naturally in the cracks of calcareous rocks of the alpine chain, in the Black Forest, the Appenines and Carpathians, up to 7,000 feet. It has fleshy ovate-elliptical leaves, glabrous on both sides, narrowing gradually to the base, with a very short glandular ciliation. The flowers are golden-yellow, with a pale powdery circle at the throat. From two to ten of the powerfully scented flowers are borne in an umbel; the calyx is often powdery and is ovately toothed. This plant enjoys limestone and a half sunny place. It is easily grown in the rock garden or in the open garden.

P. Balbisii (Lehm.), a synonym of *P. ciliata* (Moretti).

P. bellunensis (Venzo), of the Italian Tyrol, is a synonym of *P. ciliata* or *Balbisii*. I cannot see myself, nor am I able to find out, any difference between them.

P. Bernina (Kern.), syn. *P. Salisii* (Brügg) has occasionally been found in the Bernina Alps. It is a hybrid of *P. hirsuta* (All.) and *viscosa* (All.). The leaves are large and downy, slightly viscid; flowers reddish, sometimes very deep violet, but the colour is variable. It is midway between the two parents.

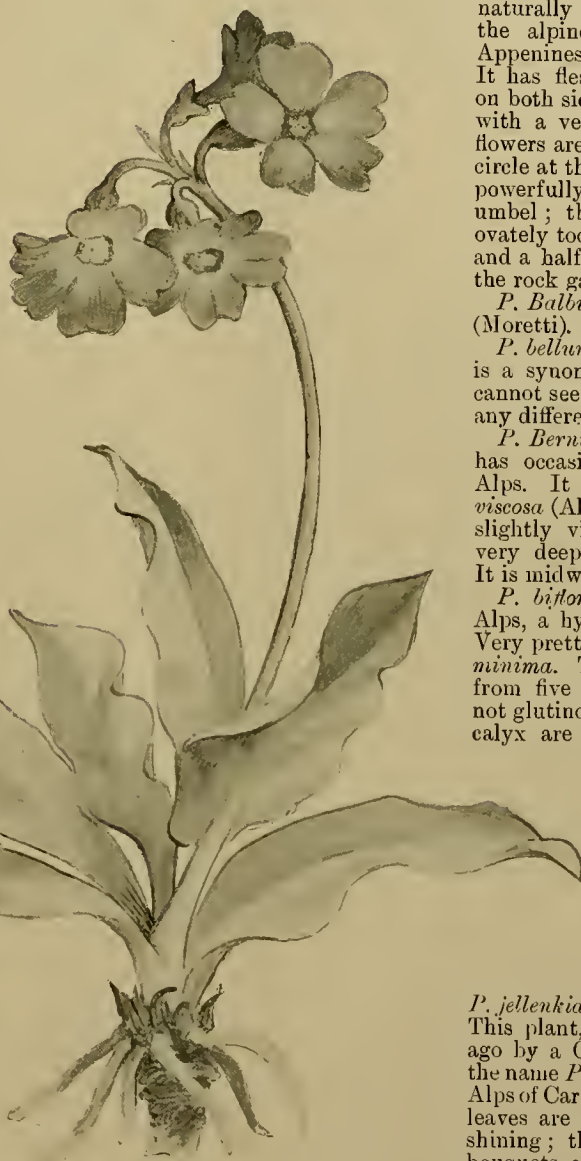
P. biflora (Huter), a plant of the Tyrolean Alps, a hybrid of *P. Hoerkeana* and *minima*. Very pretty and quite dwarf, inclining to *P. minima*. The leaves are cuneate-obovate with from five to seven short teeth; the stem is not glutinous, and the involucral leaves of the calyx are very short, thus distinguishing it from *minima*. The flowers are large, their colour lilac-mauve, with a pale circle at the throat.

P. Cadinensis (Porta), a synonym of *P. anensis* (Thom).

P. calycina (Reich.), a synonym of *P. spectabilis* (Tratt.).

P. carniolica (Jacq.), syn. *P. integrifolia* (Scop. non L.), syn. *P. Freyheri* (Hladnik).

P. jellenkiana (Freyh.), *P. multiceps* (Freyh.). This plant, which was distributed a few years ago by a German botanist-nurseryman under the name *P. multiceps*, belongs to the calcareous Alps of Carinthia at 3,000 feet to 4,500 feet. The leaves are entire, light green, slightly waved, shining; the lilac-rose flowers are borne in bouquets of two to fifteen together. In cultivation the plant becomes densely tufted, and gives a large quantity of bloom in April and May. At the garden of La Linnea, at an



P. CARNIOLICA (LIFE SIZE).

of a violet colour, are nearer those of *viscosa*.* *B. Arctotis* (Kern.), also a natural hybrid, often produced between *P. Auricula* and *hirsuta*. Kerner, who greatly admired this hybrid, described it in 1875† The leaves are glandular, showing the influence of *P. hirsuta*, and the calyx has none of the farinaceous powder that characterises *Auricula*. It is found wild in the calcareous Alps near Thun, and in those of the Engadine and the Tyrol. It abounds in the gardens of the country people in the Pusterthal (Tyrol). It has been grown there from time immemorial, and here may possibly have been the origin of the garden *Auriculas* of Holland and England, in

* In our Swiss Alps, especially in the limestone, a good number of natural hybrid forms of *P. Auricula* and *viscosa* may be found in many tints and colours. In the Vaudois Alps, on the Croix de Javernaz and the flanking buttress of the Dent du Midi, also on the Dent de Valerette, these natural crosses are abundant. They also occur in the neighbourhood of Davos.

† "Ost. bot. Ztschr.," 1875, page 124.

‡ Kerner: "Geschichte der Aurikel," Zeitschrift der D. and O. Alpenvereins, vol. vi.

§ Just lately, M. Arends, whom I had asked for information, tells me that he obtained his varieties of *P. Arctotis* from a *P. nivea* (Hort.) and a *P. pubescens* "albo ciliata macrantha" which he had crossed, and further by successive crosses with *P. spectabilis*, *hirsuta*, &c. In the case of these varieties it is therefore not the *P. Arctotis* of Kerner that is in question, but a hybrid *Primula* which can be known by any popular name that will serve to distinguish it for garden use.

altitude of 5,360 feet, the tufts spread to more than a foot across.

P. Caruelii (Porta).—This is a hybrid of *P. spectabilis* and *glaucescens* that the Abbé Porta found in the Alps near Bergamo, and which also occurs fairly often in the mountains of the Val Camonigo, above the Lac d'Iseo. The leaves closely resemble those of *spectabilis*, that is to say, they are green and glutinous, not bluish, and show marginal dots; the flowers are large and of a bright carmine-rose, the bracts being shorter than the pedicels of the flowers, which is the character of *P. glaucescens*.

P. Churchillii (Hort.).—This plant, distributed by the German horticulturist Gusmus, as a hybrid of *P. Auricula* and *clusiana*, is in fact one of the numerous forms of *Primula Arctotis*.

P. ciliata (Moretti).—This is figured in the "Icones" of Reichenbach t. 52. f. iii., iv. Syn. *P. Balbisii* (Lehm.). It grows in the Dolomites and the southern and eastern limestone Alps of Austria. This species is distinguished from *Auricula* by its deep yellow scentless flowers, by the leaves which are longer, stouter, and more pointed and edged with glandular hairs, and by the general absence of the whitish powder which is found only on the corolla, whereas in *Auricula* it is spread more or less over all the portions of the plant that are above ground. It does well in cultivation, growing even larger than the type *Auricula*.

P. clusiana (Tauch), syn. *P. ciliata* (Koch), *P. spectabilis* (Fuss. non Tratt.). Calcareous Alps of Austria from 3,000 feet to 6,500 feet.* One of the most beautiful species of the genus. Unfortunately, *P. glaucescens* and *P. spectabilis* are often sold for it, so that many amateurs are misled. *P. clusiana* has dark green leaves, neither dotted nor viscous, which distinguishes it from *spectabilis*, and neither stiff nor glaucous, which distinguishes it from *glaucescens*; they are very slightly margined with white. The flowers are large, even very large, of a bright violet-carmine colour and highly ornamental; the lobes of the corolla are divided to the middle, while in *glaucescens* they are only cut down one-third of their length. It is figured in Reichenbach's "Icones," XVII., t. 58. It succeeds admirably in cultivation, flowering in April and May, and sometimes even in the end of March, and likes half shade.

P. commutata (Schott).—A rare species, only known in the Herberstein in Styria in the fissures of porphyritic rock at an altitude of 1,000 feet to 1,200 feet. It is figured in Reichenbach's "Icones," XVII., t. 66, and is distinguished by the length of petiole and by the even denticulation of the leaves, which widen much to the top; the flowers are large and of a fine rose-violet colour. It is extremely rare in cultivation.

P. confinis (Schott), syn. *P. ciliata* (Schrank non Mor.).—Pax makes this only a variety of *P. hirsuta* (All.), (Reichenbach's "Icones," XVII., 40, t. 62). It is distinguished from the type *hirsuta* (All.) by the extremely regular denticu-

* It is doubtless in error that Wahlenberg (Fl. Carp. 55) ascribes it to the Carpathians, where it has never been found since his time; he may have meant to indicate it in the mountains of Transylvania, where it grows freely.

† Journal of the Royal Horticultural Society, vol. vii., No. 2, page 278.



PRIMULA COMMUTATA (LIFE SIZE).

lation of its leaves, which are also characterised by a very distinct margin set with glandular hairs. The flowers are large and of a bright carmine colour.

P. coronata (Porta).—A hybrid of *P. spectabilis* and *minima*, found in South Tyrol by the Abbé Porta in 1886, and quoted by Mr. Dewar in his synonymic list of the genus *Primula*.† We received the plant from Porta for the garden of La Linnaea, but were unable to keep it. The leaves are very regularly toothed and set with glandular hairs. I have never seen it in flower.

Geneva.

H. CORREVON.

(To be continued.)

CORRESPONDENCE.

(The Editors are not responsible for the opinions expressed by their correspondents.)

OLD CYCLAMEN CORMS.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—When reading in THE GARDEN, April 19, of the wonderful results by "E. H." respecting old corms of *Cyclamen persicum*, I thought an account of some Persian *Cyclamens* I had the privilege of inspecting about six weeks ago, when they were in full beauty, would be interesting to your readers. The plants were grown by Mr. Jones, gardener to Mrs. Silva, Testcombe House, Andover, Hants. They were the finest plants for size and quantity of bloom that I have ever seen, and I have seen many collections in different parts of the country. They reflect great credit on the grower. I am sorry that I cannot send you a photograph of the plants so that your numerous readers might see for them-

selves. There were about fifty plants of all colours growing in 8½-inch and 9½-inch pots, and the number of flowers on each plant averaged 250, whilst the age of the corms varied from two to ten years. The old veterans were flowering as freely as the younger ones. Mr. Jones has no secrets as to his treatment of the corms, but imparted his knowledge very readily to me, and I believe he would to anyone else requiring it. His mode of treatment may be new to a great many, but it is a plan which he has practised with great success for a number of years. Early in May the plants are planted in a fairly rich garden soil on an east border, backed by a high wall, consequently they receive little sun. They are planted 12 inches to 15 inches apart, and remain in this position until the end of October or even later. Should there be any signs of frost Mr. Jones puts a mat over them. They are then taken up and potted in the size pots above stated, put into a cool house or frame, and afterwards into an average temperature of 55° to flower. Your readers need not hesitate to plant out the corms about the middle of April, because I know of some that were planted at that date this year, and since that time there has been 8° of frost, and neither flowers nor foliage are in the least injured.

Wherwell.

W. PASCOE.

ACACIA CULTRIFORMIS.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—As some doubt existed concerning the name of the *Acacia* shown by Mrs. Denison, of Berkhamstead, in February last, and awarded the first-class certificate of the Royal Horticultural Society, I would like to ask Mr. W. Dallimore, whose notes on the plant appear in THE GARDEN of April 19, page 255, whether he is quite sure of his ground in referring the exhibited plant to the above-named species. In my own mind I am strongly of opinion that a mistake has been made, and there is certainly very considerable difference between the exhibited examples and

Mr. Dallimore's description. At page 255 it is stated to be "one of the most popular," which is equivalent to its being either a well-known or a freely grown plant. As a matter of fact hardly a member of the floral committee knew anything about it. Again, it is further described as being "distinguished by its rather loose habit, glaucous, knife-shaped phyllodes, and short racemes of fluffy, deep yellow flowers." In some respects this description is quite at variance with Mrs. Denison's plant. In this latter the phyllodes are nearly cuneate, or between this and open fan-shaped, while the racemes are not short, but very long, compact, and densely furnished with globular heads of yellow flowers. The flowering sprays are often 2 feet or 3 feet long, and a distinguishing feature of all the growths shown on February 25 is their attenuated character. This character and the long drooping flowering sprays are both fairly well shown in the illustration at page 255 of THE GARDEN. Indeed, there is the drooping character of the Willow in Mrs. Denison's plant, that also possesses a strong Hawthorn-like fragrance. Another feature of the latter plant is the way the flowers terminate on the long sprays and are followed by the nearly cylindrical growth that extends for several inches in length, till tapering at the extreme point. On this unflowered portion the phyllodes are so closely and densely set that were the stems erect instead of drooping a closely imbricate feature would be set up. Finally there is a greyish tone in the young stems or branches and a blue or sea-green tone in the phyllodes. In the French edition of the "Dictionary of Gardening" (Nicholson) is a coloured plate of *Acacias*, *A. cultriformis* figuring therein; and, assuming this to be true, as it agrees with Mr. Dallimore's description of the species in several respects, it is safe to say there is nothing in common between this and the examples shown of Mrs. Denison's plant. "Don," who in his Dictionary enumerates nearly 300 species, describes

A. cultriformis thus:—“(Cunningh MSS.) branches smooth, angular, phyllodia cultriform, ending in an acute hooked mucrone, which leans to one side, and furnished with a gland on the middle of the upper margin, 1. nerved, the nerve nearly parallel with the lower margin, heads crowded, disposed in racemes, which are either axillary or terminal. Phyllodia, 8 lines to 10 lines long and 4 lines broad.” Nothing is said of fragrance, quite a strong point in the exhibited plant, and the dimensions of the phyllodes are quite foreign to this also. The subject is well worth a little ventilation and should be cleared up; indeed, the characteristic beauty and elegance of Mrs. Denison’s plant almost demand this.

Hampton Hill.

E. H. JENKINS.

THE LONDON DAHLIA UNION.

[TO THE EDITOR OF “THE GARDEN.”]

SIR,—I was pleased to read the paragraph in your recent issue regarding the meeting of the London Dahlia Union. It is a little unfortunate that a fuller report of that meeting was not made public, as it would have entirely dispelled the idea which exists in the minds of a few that the London Dahlia Union is in any way antagonistic to the National or other Dahlia societies. It is true there was a feeling expressed on the part of one or two gentlemen present that they should form themselves into a society with officials, committees, &c., but, after the chairman’s speech, this idea was departed from, and the meeting unanimously resolved to work on the lines indicated by the

chairman (Mr. Cuthbertson). He pointed out that an exhibition late in September was required and would be held by the trade growers, but he saw no necessity whatever for the formation of an independent society. It was necessary, moreover, to avoid the very appearance of antagonism to the National Dahlia Society. He thought that there was nothing to hinder them going on under the title of “The London Dahlia Union,” having a meeting similar to last year at the Aquarium, a luncheon in the afternoon, at which any business could be discussed and at which a chairman and a secretary could be appointed to arrange the show and meeting for the following year. He did not think it at all necessary to have more office-bearers, as the two mentioned were quite sufficient to carry out all arrangements for the exhibition. This method would give a certain continuity to the meetings, and he was sure they would be as successful, as enjoyable, and as profitable to the trade as the past ones had been. In seconding and supporting Mr. Cuthbertson’s proposal, I pointed out that I thought he had formulated a most happy solution of the position of affairs, and that the meeting would in reality be an annual reunion of the principal Dahlia growers of the country.

H. A. NEEDS.

BRIDGES IN JAPANESE GARDENS.

AMONG the many wonders of the gardens of Japan is the variety of form and treatment

used in the making of the bridges. In an Iris garden, where the plants are in rich mud, these are perhaps hardly to be called bridges, but rather causeways. In this case they are made firm and dry and broad, so that the lovely flowers can be seen from all sides in perfect comfort.

Often in the most dressed gardens the bridge is a massive slab of white marble, or two such slabs, resting on a middle upright pier passing across the main space of one of the little ponds; or a marble slab may bridge a small space to lead to a tiny island on which stands a sacred shrine.

Bridges spanning rivers or wider spaces as well as garden bridges are also of wood, sometimes quite flat, bracketed out from the two shores by overlapping horizontal beams with a middle pier if needed; or they are of wrought stone, and often, in strong currents, of strong stone piers with wooden structures above.

A wooden bridge sometimes takes a high segmental curve so that it forms a steep stairway up and down; this form of bridge is in connexion with devotional ceremonial. Such a bridge spans a canal filled with Lotus (*Nelumbium*). A smaller one of the same form is associated with a wonderful growth of *Wistaria* forming an extensive water pergola as shown in the illustration.



THE ROUND BRIDGE AT KANEIDO, JAPAN, SHOWING THE WONDERFUL GROWTH OF WISTARIA.

GARDENING OF THE WEEK.

INDOOR GARDEN.

POINSETTIAS.

REMOVE some of the old cut-back plants into a temperature of about 65° in order that they may produce a batch of early cuttings, and prune unripened and weak growths so that they may break stronger. Syringe the plants freely, but do not apply much water at the roots until growth has commenced, when manure water may be given occasionally. The remainder of the cut-back plants may be removed from the intermediate house and placed on their sides under the stage of the greenhouse in order to retard them for successional batches of cuttings.

CANNAS

that have filled their flowering pots with roots should be regularly supplied with liquid manure in order to develop their flowering spikes. Suckers may be taken from these plants and placed singly in 3-inch pots in a close, moist atmosphere, where they will quickly root, and may be transferred into 4½-inch or 6-inch pots, in which they may flower if kept well supplied with liquid manure. I have always found these suckers or cuttings form the best plants for conservatory or house decoration; being dwarf and in small pots the foliage and flower are equal in size and colour and are more serviceable. Cannas require a very rich porous compost, consisting of three parts fibry and one part leaf-soil, with a good addition of dried cow manure and sand.

SOLANUMS AND SALVIAS

that are established in their pots should be placed in cold frames to harden off, in readiness to plant outdoors by the end of the month. Bouvardias that are forward enough may be placed in the same frame. Later batches should be kept pinched and growing.

ZONAL PELARGONIUMS

that are flowering should have plenty of nourishment given to them. Plenty of room must be allowed each plant, or they will soon become drawn. A fairly dry atmosphere and free circulation of air are also essential to success.

FRANCOAS

that are showing flower spikes should be removed into a greenhouse and have soot and manure water given them occasionally. Before the roots of seedlings become much restricted for room they should be potted off into larger sized pots, using a compost of fibry loam and peat in equal parts, with sufficient silver sand, and placed in a cold frame.

CHRYSANTHEMUMS.

When the pots are filled with roots, and before they become root-bound, afford them larger pots. The compost should consist of the same materials as recommended in a previous calendar. Plants may now be cut down for decorative purposes; they should be cut back to within about 6 inches of the soil. Great care must be exercised in watering until growth is perceptible. Syringe freely, which will help them to break. When Chrysanthemums are required in small pots the tops of these cut-back plants will form excellent cuttings.

JOHN FLEMING.

Wexham Park Gardens, Slough.

FRUIT GARDEN.

PINE-APPLES.

ALTHOUGH there need be no difficulty attending the management of the first started Queens, these will now require careful attention to assist them in developing their fruits; more water at the roots will be necessary, and this should be used in a warm state, and enriched with Peruvian guano, which acts as an excellent stimulant for the Pine-apple. To prevent injury being done to the crowns of the fruit thin tiffany should be used as a shading during the hottest part of the day. Give more ventilation, and more frequently damp the floors, and sufficient artificial heat only to keep the

night temperature from falling below 70° and the plunging material at about 85°. Syringe between the plants early on bright mornings, and admit a little air when the temperature reaches 80°. Finally close the structure, so that the temperature remains for a while at or near 90°. During dull weather the day temperature should stand between 75° and 80°. Gently spray the plants overhead, and also the plunging material, and damp the floors when the house is closed on bright days. Remember, however, that an excess of atmospheric moisture creates large crowns, which detract from the good appearance of the fruit. Keep the fruits erect by carefully securing them to stakes, and remove all suckers not required for furnishing an ample supply of young plants.

THE CHERRY HOUSE.

Frequently examine the points of young shoots and fumigate with XL All insecticide if aphids appears. Secure extending growths to the trellis, and stop others beyond the fourth leaf to form spurs. The borders must be kept moist as the fruit approaches ripeness, for if they are allowed to become dry and then watered the fruit will split. A similar result will follow if a close, moist atmosphere is maintained during this period, or if the fruit is allowed to get wet by being syringed, &c. Keep the ventilators more or less always open, and give a little artificial heat if external conditions necessitate its being done. The fruit improves in flavour after it is coloured by hanging for a time upon the trees. Trees in pots will require more frequent supplies of water, but in other respects their wants are those of trees planted in borders.

CUCUMBERS.

To keep up a supply of fruit from the same plants for a long time give suitable nourishment, so that the plants at no time may be checked. Keep the roots active by frequently adding fresh layers of turfy loam and decayed stable manure to the ridges of compost as they become filled with roots, in the meantime giving necessary copious supplies of water and weak farmyard liquid manure. Plants treated in this way make quick growth, which must be regularly stopped, tied to the trellis, and thinned by removing the weakest shoots and exhausted leaves. Thoroughly syringe the plants in the morning, and again when the house is closed for the day.

THOS. COOMBER.

The Hendre Gardens, Monmouth.

ORCHIDS.

PHAIUS GRANDIFOLIUS, P. Blumei, P. maculatus, P. Wallichii, &c., and the numerous hybrids, as they pass out of bloom and growth commences, should be repotted if necessary; the majority of them are free rooting plants, and on that account should not be confined to small pots, but allowed plenty of space. The plants should be placed a little below the rim of the pot and watered somewhat sparingly for a time, but as soon as they have become rooted in the new compost, and the growths well advanced, they should receive an abundance of moisture both at the root and in the atmosphere. Water them occasionally with weak liquid farmyard manure and give them a shady position in the stove. Peat, sphagnum moss, and fibrous loam in equal proportions form the most suitable compost. Being subject to the attack of thrips, they should be carefully watched and frequently sponged with some insecticide.

The Angraecums, Aerides, and Saccolabiums should now have attention in the way of repotting or top-dressing. With the exception of a few species that have yet to bloom, those that have sufficient rooting space and do not need disturbing should have all old moss removed, the surface of the crocks and roots well rinsed with tepid water, and be resurfaced with fresh living sphagnum moss. Those that need repotting or rebasketing should be carefully liberated from their receptacle, all old material removed, and the roots well rinsed. Any of the larger specimens that have become leggy, that is, have lost many of their lower leaves, must have the lower part of the stem cut away, leaving sufficient roots above to support the plant; the

lower roots should be carefully put in the pot and the plant so placed that the lower leaves are brought down as near the top of the pot as can be conveniently managed. Carefully work the crocks in among the roots, filling up to within an inch of the rim, and fill the remaining space with fresh sphagnum moss, pressing the same moderately firm. Immediately after repotting, the plant should not be watered too freely, but later they should never be allowed to suffer for the want of it. The majority of the above thrive well in a shady position in the stove, with the exception of Angraecum falcatum and Aerides japonicum, which should be grown in the cool intermediate house.

VANDAS.

If V. insigne, V. tricolor, V. suavis, V. stangeana, V. denisoniana, and V. coerulea need repotting it should now be done, otherwise a surfacing with fresh sphagnum moss is all that is necessary. The repotting, &c., should be carried out in the same way as that recommended for Angraecums, &c., and any that have become unsightly by the loss of many lower leaves should be similarly treated. The above Vandas grow well in the Cattleya house, but those that have been repotted should not be placed in direct sunlight until they have become re-established. V. sanderiana, V. gigantea, and V. Batemannii are other good species; the former is best grown suspended in a light position at the hottest part.

Laelia anceps and its varieties, L. gouldiana, L. autumnalis, and L. alba, if not already repotted, should have attention at once, as the majority are beginning to grow and root freely; they may be grown in pots, pans, or baskets, in a compost of equal proportions of peat and sphagnum moss, and very little should be placed about their roots. The plants should now be syringed overhead morning and afternoon on bright days, and should receive every encouragement.

Celoglyne cristata and its varieties should never be disturbed at the root, unless it is really necessary. When once placed in baskets of moderate size, in good compost, they will grow on for a number of years without being disturbed. Growth is now beginning. Look over the plants and make them neat and tidy for their growing season, merely picking away the old material where possible without disturbing the roots. Replace with fresh compost, peat and moss in equal proportions. Where the leads are creeping away from their receptacles they should be carefully bent round and pegged on the compost. The variety cristata alba needs special attention in this way; these are best grown in the Mexican house, where they can receive plenty of light, but shaded from the direct rays of the sun.

Thunias (T. alba, T. marshalliana, and T. Beuconæ) are now growing apace, and as soon as they have become well rooted should be fed with a little weak liquid farmyard manure. Give sufficient to just colour the water; they need plenty of heat but little shade, and an abundance of moisture both at the root and in the atmosphere. Syringe them freely two or three times a day until growth has finished.

F. W. THURGOOD.

Rosslyn Gardens, Stamford Hill, N.

KITCHEN GARDEN.

BRUSSELS SPROUTS.

PLANTS raised under glass and pricked off into cold frames should now be quite ready for planting in their permanent quarters. The ground should have been heavily dressed with farmyard manure and deeply trenched. Lift with a good ball of soil, plant with a garden trowel, make thoroughly firm, and well water in. Allow plenty of room for the plants to properly mature, a distance of 3 feet between the rows and 2 feet 6 inches between the plants being none too much. Hoe frequently to promote a good start, after which they will require little attention.

CAULIFLOWERS.

Continue to plant out successional breaks, selecting ground which has not been occupied by any of the Brassica family for at least twelve months. The earlier plantings should be kept well watered

with manure water, and should the weather continue dry a good mulching of stable litter will be beneficial. Those in pots or planted out in frames will now be turning in and give nice little heads such as are generally much appreciated. They must be kept well supplied with water at the roots, and damped overhead morning and afternoon to keep them growing and to prolong their season. The leaves should be tied up or broken over them to ensure being quite white; cut before they commence to open.

ONIONS (WINTER).

To ensure good bulbs heavy drenchings of clear and liquid manure water should be given frequently. Stir up the surface often, and damp over the tops every afternoon early in dry weather. Flower spikes should be broken out immediately they can be seen. These will never make good exhibition bulbs, but will be useful for pulling early.

PEAS.

Early Peas, owing to the long spell of exceptionally cold weather, will, I fear, in many places be very late this year, but they may be forwarded considerably by picking out the points of the growths as soon as a fair quantity of pods are set. Give plenty of water at the roots and damp overhead on fine afternoons. This is a good time to make large sowings of late varieties to come in after the mid-season kinds. Trenches should be prepared as for Celery and three parts filled with good rotten manure. Autocrat, Masterpiece, and Ne Plus Ultra are all good kinds for sowing at this season, and generally succeed in most parts of the country, but if I were restricted to one sort it would be the first-named, as it withstands drought and mildew better than any I am acquainted with.

CELERY.

That planted a fortnight since for very early supplies has had a sorry time of it, but it will be little the worse if every inducement be given to enable it to make a rapid growth as soon as the weather is favourable. Stir up the soil about the roots, dust the young leaves with tobacco powder to destroy greenfly, strew the leaves with fresh soot, and damp overhead twice daily in bright weather to ward off Celery fly. A further planting ought at once to be made, and Celery, the Turnip-rooted Celery, also ought to be got out early on rich ground. This should be planted on the flat and kept well watered. An early growth is necessary to ensure good large roots by the autumn.

TURNIPS.

Make good sowings of both Snowball and Veitch's Red Globe, the last-named being one of the best summer Turnips grown.

CAPSICUMS AND CHILLIES.

Pot these on into the pots it is intended to fruit them in, and grow on in heat near the glass; later they may be removed to cold pits or frames.

E. BECKETT.

Aldenham House Gardens, Elstree, Herts.

THE FLOWER GARDEN.

THE present is a good time to sow seed of biennials in beds in the open ground. It is a mistake to postpone doing so until later, as the dry, hot weather of July and August is detrimental to seedlings. Instead of being small, weak, and thin, plants sown now will be dwarf and strong for planting out the following winter.

WALLFLOWERS

are amongst the best of biennial flowers we have, and every flower garden should possess them. In sowing Wallflowers care should be taken to prepare a good seed-bed for them. The soil should be fairly rich and friable, and broken up previously. The seed must be sown thinly, and the seedlings when large enough be thinned out, allowing sufficient space for each plant to develop properly. During dry weather see that they do not suffer from want of water, and keep the beds perfectly clean by the removal of all weeds. For old walls and dry banks there is nothing better than Wallflowers, for

once established they perpetuate themselves, though perhaps the perennial varieties are best for this purpose. I find the most successful way to establish them in old walls is to insert a few seeds with a little soil in the chinks and crevices of the walls about now, and leave them to look after themselves.

THE CANTERBURY BELL

is another good biennial that should find a place in every garden as a beautiful hardy border plant. The double and semi-double strains are to be greatly preferred to the old singles, as they are not only superior in form, but also in richness and diversity of colour. The seeds should be sown at once, either in open beds or in boxes in a cool frame, and when large enough the seedlings should be pricked out into a well-prepared bed in a shady corner of the garden; water them if dry weather is experienced. By September they will be strong plants, ready for planting in permanent positions in the flower borders. If when they have finished flowering the plants are gone over and all the old blooms removed an autumn display of flowers will be ensured.

THE SWEET WILLIAM

should be sown now in open beds in as sunny a position as possible, and when the plants are large enough put them into good soil about 6 inches apart, and then in September plant into their flowering quarters. The single varieties, with one or two exceptions, are to be preferred to the double ones.

THE FOXGLOVES

are better sown in boxes than in the open, but the present time is opportune for practising the latter method.

HUGH A. PETTIGREW.

Castle Gardens, St. Fagans.

GARDENING BOOKS.

SINCE gardening has become the fashion, and so many people who have gardens now superintend the laying out and planting of them, a whole host of gardening books have appeared—some good and some otherwise—to meet the demand for further knowledge in the handling of our best shrubs and plants. When I first began gardening I had a difficulty in knowing what books to select; the result was that for the last eight or nine years I have bought most of the new and also many of the older ones, and anyone who has done the same will agree that in some cases the money spent might have been better employed. I therefore hope that the following lists may be of use to some who may be situated in the same position in which I found myself.

First of all, and *facile princeps*, comes Robinson's "English Flower Garden," and, if I were limited to one book, it would, I think, be this one. Others that I would place in the front rank for practical usefulness are:—

"Culture of Vegetables and Flowers," by Sutton.

"Flowering Trees and Shrubs," by Webster.

"The Nursery Book," by Bailey.

"The Wild Garden," by Robinson.

"Wood and Garden," by Miss Jekyll.

A further list of very useful or very charming books would consist of:—

"The Century Book of Gardening" and

"Gardens Old and New," both published, I believe, by *Country Life*.

"Flowers and Gardens," by Forbes Watson.

"A Year in a Lancashire Garden," by Bright.

"In a Gloucestershire Garden," by Canon Ellacombe.

"In a Garden of Pleasure," "Days and Hours in a Garden," and several other books by E. V. B.

"Home and Garden," "Wall and Water Gardens," and "Lilies," all three by Miss Jekyll.

"The Bamboo Garden," by Freeman Mitford.

"Pot-pourri from a Surrey Garden," by Mrs. Earle.

"A Book about Roses," by Reynolds Hole.

"Gardening for Beginners," by E. T. Cook.

"The English Flower Garden," by Bright.
"Gardens and Woodlands," by Frances Hope.
"Plant Breeding," by Bailey.
"Nicholson's Dictionary of Gardening."
"My Garden," by Alfred Ince.

Then as the appetite grows the undermentioned could be added to the list:—

"Thompson's Gardener's Assistant."

"The Story of the Plants," by Grant Allen.

"The Treasury of Botany," by Lindley and Moore.

"Plant Lore of Shakespeare," by Canon Ellacombe.

"Favourite Flowers of Garden and Greenhouse," by Edward Step.

"A History of Gardening in England," by Alicia Amherst.

"Greenhouse and Stove Plants," by T. Baines.

"The Fruit Manual," by Hogg.

"Johnson's Gardener's Dictionary."

"Handy Book of the Flower Garden," by Thompson.

"The Book of the Rose," by Foster-Melliar.

"Hardy Perennials and Old-fashioned Flowers," by Wood.

"The Garden Manual," by the Editor of the "Journal of Horticulture."

"Calendar of Flowering Trees and Shrubs," by Hoare.

"Anne Pratt's Flowers and Grasses."

In addition there are Mr. Alfred Austin's books and all books by Shirley Hibberd. Besides those enumerated, which do not form by any means a complete list, several of Darwin's books should be added. Very charming also are some of the old "Herbals," such as those of Parkinson and Gerard, and Bacon's "Sylva Sylvarum." I should also strongly recommend the budding gardener, as he gets more advanced, to invest in an "Index Kewensis," or, at any rate, he should have all the Kew Handbooks, which are most useful. They have a blank page opposite each printed page, on which notes of successes or failure or dates of planting (and, alas! often of the death) of flowers or shrubs can be entered, thus forming most useful books of reference, becoming full, as time goes on, of one's own practical experience in one's own garden, which is after all more precious than any books.

One set of books I have omitted, and they come very high on the list, "The Journal of the Royal Horticultural Society," which is issued to all Fellows, is very good indeed. I will add one bit of advice to all who care for their gardens—Become a member of the society, if only for the sake of getting the Journal.

In conclusion, I must add that I have only enumerated books of which I have personal knowledge, so that I have probably omitted many that should have been included. But perhaps someone else will supplement and add to these lists.

N. B.

THE ROSE GARDEN.

HARRISON WEIR (H.P.)

I AM always sorry to see Roses of brilliant colour forgotten because they make poor growth as cut-backs. To my mind this is a truly grand Rose in form and colour, and no one would desire to be without it if they saw the magnificent flowers that the Briar cutting will produce in yearling plants. If only to obtain such blooms I would not consider it a trouble to bud a few stocks each year. The colour is scarlet-crimson with velvety shading, which one would expect, seeing that it sprang from Charles Lefebvre. It has also inherited the rich fragrance of this fine Rose, but the form is quite different, being globular with recurved petals.

THE DWARF-GROWING HYBRIDS OF ROSA POLYANTHA.

THE grace and charm of these miniature Roses and their wide range of colour should induce many

to grow them. I would strongly advocate their use as plants for edging. A bed of half standards or standards of the large flowering Roses could have no better edging than, say, of Gloire des Polyanthas (pink) or Anna M. de Montravel (white). Perle des Rouges (velvety crimson) would be a good edging to a bed of delicate-coloured standard Tea Roses, and the exquisite Perle d'Or, as yet unrivalled, would look well around a mass of crimson Roses.

I do not think anything is gained by allowing these Polyantha Roses to grow tall, which they undoubtedly will do unless checked. No better plan can be adopted than to severely prune each year. By cutting them down to the ground a more uniform growth is obtained. If the plants become too dense they may easily be thinned. Has anyone tried these pretty Roses with a carpeting of Violas? They form most lovely combinations, and being very free and continuous flowering they are just the plants we want for certain positions. A border of these Roses comprising all the known kinds would also be an interesting feature where collections of Roses are made much of. There are now some fifty varieties, and these could be divided into three groups,

ROSE GUSTAVE PIGANEAU.

It is a pity that this magnificent Rose does not grow more vigorously. The brilliant carmine shaded blossoms rival those of Paul Neyron in size, and if it only possessed the vigour of the latter, no Rose would surpass it. It is, however, well worth a little trouble to secure its fine bloom. This would be merely to plant a few Manettis or Briars and bud a dozen or two annually. The maiden plants after producing their flowers for exhibition are useful for potting up the same autumn, and will give a good account of themselves the next spring if grown on steadily until roots become active. They will then bear a little higher temperature, but nothing excessive. It may be thought that if the plants will grow in pots they will do so outdoors the second year.

They will certainly grow, but they somehow lose vigour the second year, which the potting up appears to excite again for a time. I have even seen small specimen pot plants of this Rose so that it evidently succeeds better in this way as a cut-back than in the garden.

There is no doubt that Marquise Litta originated from Gustave Piganeau in perhaps an indirect

way, probably by crossing with a Tea-scented variety. Marquise Litta is certainly more Tea-like in its freedom of flowering than the Rose under notice, and it was produced by the same raiser in 1893, some four years later than by Gustave Piganeau. It is a splendid variety in a cool season, but buds and small shoots should be well thinned out if exhibition flowers are desired. The colour is rather more vivid than that of Gus-

tave Piganeau, being of quite a rich vermilion shade. Now we have yet another promising Rose in Marie Louise Poirer somewhat in the same style as the two latter, but the flowers are more globular, after the manner of Suzanne Marie Rodocanachi; it is a cross between Caroline Testout and Marquise Litta, and has to a large extent the bold petal of Caroline Testout with the colour as it were blended between the latter and Marquise Litta. It is quite first-rate for exhibition, although all three varieties named would bear improvement in their habit of growth. Marie Louise Poirer is very fragrant.

PHILOMEL.

LATE FRUITS.

APPLE FLOWER OF KENT.

This is one of the oldest winter cooking Apples we possess, dating back to the time of Shakespeare, according to the account given of it in "Hogg's Fruit Manual." Of late years it has been elbowed out of our orchards by later novelties, but is still deserving of a place in all good collections. It is in season from November to February. The tree is a strong

grower, and more fitted for the orchard than the garden. The fruit is large, round, and flattened on the top, the skin when ripe being yellow, occasionally suffused with dull streaky red on the sunny side and dotted over with grey spots. The flesh is white, firm, and juicy, with a somewhat acid flavour.

OWEN THOMAS.

OBITUARY.

MR. THOMAS DAVIES.

It is with regret that we record the death of Mr. Thomas Davies, which took place at his residence at Wavertree on the 6th inst. As head of the firm of Messrs. Thomas Davies and Co., nurserymen and seedsmen, he has ably sustained the good reputation of this firm, well-known in south-west Lancashire for nearly 150 years. Mr. Davies was born at Wavertree in 1829, and commenced his school life in the village. At the early age of 13 years he entered his father's nursery, and after four years' home life a move was made south for the purpose of adding to his experience and getting a knowledge of the London trade, and for this purpose a couple of years were spent under Messrs. J. A. Henderson and Co., Pine Apple Place, Maida Vale, and then the next year under Mr. John Shaw Leigh in Bedfordshire. Returning home he ably assisted his father and uncle by maintaining the high reputation of their business, and eventually, in 1887, became head of the firm. About two years ago the nursery and seed warehouses being required by the corporation, a move was made to new and more commodious premises, where the bulb and seed trade is now carried on. As an employer he was most generous and just. At the graveside was one employé with over 50 years' service, another with more than 40 years, and many others who have been with the firm for many years.

Mr. Davies took a keen interest in horticultural societies, &c.; he was for seventeen years a member of the committee of the old Liverpool society, for fourteen years chairman of the defunct Woolton Society, a prominent supporter from its infancy of the Liverpool Horticultural Association, and of many other local institutions. He was of a kindly, genial, considerate nature, always ready to help forward a good cause. This was instanced only a few weeks ago, when a sympathetic letter accompanied by a cheque for £5 was sent by him to the monster meeting of horticulturists, held recently in aid of the funds of the Gardeners' Royal Benevolent Institution. The Manchester Unity of Oddfellows has lost an ardent worker and warm supporter—during the whole of his life his services were freely given, both to his own lodge and the district, and valuable testimonials have been accorded him. Mrs. Davies died in 1883, leaving no children.

The remains were laid to rest on the 10th inst. at Childwall Parish Church, when the nurserymen, gardeners, farmers, and Oddfellows were present in large numbers to tender their last tribute of respect and esteem.

SOCIETIES.

NORFOLK AND NORWICH HORTICULTURAL SOCIETY'S SPRING SHOW.

This annual exhibition brought together a grand lot of Narcissi and other spring hardy flowers as well as the more aristocratic occupants of our stoves and greenhouses. Mr. G. Davison, gardener to Captain Petre, Westwick House, Norfolk, undoubtedly took the blue ribbon of the show by securing the first prize for thirty-six varieties of Narcissi, three blooms of each, comprising such grand varieties as King Alfred, Captain Nelson, Duchess of Westminster, Weardale Perfection, &c.; also first for six varieties, six blooms each, first for Anemones, first for twelve hardy flowers in bunches, first for hardy flowering shrubs, &c., a grand achievement. Mr. O. Corder, Norwich; Colonel Rous, Worstead; and Lord Suffield, Guntton Park, were also notable exhibitors in this class. Orchids from H. Rider Haggard, Esq., Ditchingham, were grand specimens of health and vigour, a noble Cymbidium being much admired.



APPLE FLOWER OF KENT. (Original 3 inches high and 3½ inches wide.)

according to their height. If a space of 2 feet apart each way were allowed this would provide ample room for Violas. I am not in favour of mixed borders of Roses as a rule, but in this case I think the objection could be waived with advantage. A few half standards interspersed would break up the formality.

Both the French and the Germans grow more varieties of these Roses than we do. I some time ago alluded to Eugénie Lamesch and Leonie Lamesch as being two worthy novelties, and subsequent experience has raised them in my estimation. Another little beauty is Maxime Buatois, a cross between Etoile de Mai and Mme. Laurette Messimy, the colour resembling the latter, though with a richer suffusion of orange-yellow. Schneewittchen also seems to be a good new variety in the way of Paquerette, but with a dash of yellow in its flowers, which it probably inherits from Aglaia, one of its parents.

All the varieties make excellent subjects for conservatory cultivation, but perhaps the most useful is Anna M. de Montravel, as its snow-white blooms can be used in so many ways. I should like to see a really rich crimson-scarlet variety. Perhaps now that we have Grüss an Teplitz this will be made use of in crossing.

PHILOMEL.

THE GARDEN

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[MAY 24, 1902.]

IS KEW A PUBLIC PARK?

IN the main, Britons are a law-abiding and not a law-breaking people, which is the natural outcome of the glorious freedom of our national institutions, and though it may be an Englishman's privilege to grumble, he is not, as a rule, unreasonable in his grumbling when a statement is fairly put before him. The question of the fundamental laws governing the successful management of public parks and open spaces, to which allusion was made in a recent issue of *THE GARDEN* with regard to Kew Gardens, is a case in point. So far, indeed, from the British public being deprived of their rights in the matter of access to every part of the splendid Botanic Garden and Park at Kew, all reasonable persons are grateful for the unexampled privileges so liberally placed at their disposal. There is no establishment of the kind throughout the length and breadth of Europe which offers such unparalleled attractions to every class of the community. To the scientist, to the professional and to the amateur student, to the artist, to the mere lover of flowers, to the weary dwellers in dingy streets, these incomparable gardens are free and open every day of the week. Children play in its secluded dells, and are not interfered with so long as they do no mischief. In all directions, even in the wild parts, broad grass paths are kept smoothly shorn and in perfect order for the convenience of the visitor, yet he is not prevented from wandering at will under the shade of the magnificent Beeches and Oaks. There is not a single unreasonable or vexatious restriction to preclude any respectable citizen from enjoying to the full, and entirely free of charge, all the perfection which a most happy union of Art with Nature has placed within his reach—the one sole condition being that of seemly conduct.

A few portions of the grounds are marked private, because it would be impossible otherwise to carry out the comprehensive scheme of wild gardening which is the delight of the multitudes of visitors who come, in many cases, purposely to see, not so much the greenhouses or the formal beds of brilliant flowers, or the rare botanical specimens, as to revel in the drifts of Snowdrops under the trees, the pools of blue *Chionodoxas* in earliest spring, the waving *Daffodils*, the clustering *Anemones*, and the countless flowering plants of other lands which are acclimatised and find themselves at home in the green breadths of

the undisturbed turf. In *Bluebell* time the grass grows high, and in ten minutes a couple of unruly children, making foot-tracks across the lawns which are railed off round the *Queen's Cottage*, would spoil the beautiful picture for the season, which for a space only too brief gives untold pleasure to thousands.

No public park is placed absolutely at the disposal of the people without let or hindrance. Rules and regulations must, in all cases, be strictly carried out in the interests of the frequenters themselves, no less than for the good of the greater number. Perhaps it might shock the sensibilities of those who regard the indulgence of individual whims as of greater importance than the pleasure and well-being of the many, to learn that on Sheen and other commons one is faced by frequent notices to the effect that under severe pains and penalties not a single twig may be removed from the *Thorns* and *Furze* and wild brambles growing thereupon. Such restriction as this on an open common may seem, at first sight, unnecessary and provoking, but a moment's thought shows the absolute need for the rigid preservation of these most precious breathing spaces in the near neighbourhood of the mighty city, otherwise they would not be preserved at all.

In the *Victoria Gardens*, bordering on the *Bethnal Green Road*, as any one may see who will take the trouble to penetrate to that far-off region of the *East End*, there is a small but well-arranged rock garden, planted with taste and judgment with the most suitable plants that will grow in the smoke and dust of that grimy quarter. *Auriculas* and *Primroses*, *Sweet Woodruff*, *Campanulas*, *Irises*, *Sedums* and *Saxifrages*, *Pinks*, and many herbaceous perennials are flourishing marvellously there, considering their surroundings, and that little bit of gardening with its homely flowers touches the heart of many a one, used in earlier days to a country life, far more than the set-out beds of gay *Tulips* and *Daffodils*. But—tell it not in *Gath*—the whole is surrounded by a wire fence to prevent the incursions of idle feet and encroaching fingers, while a stalwart guardian of the peace lingers in its vicinity. To return to Kew. The law with regard to birds' nesting happily provides for a close time which applies to all the land, but were it not so all bird lovers would thankfully welcome the strictest preservation of bird life within the sheltering precincts of the *Royal Gardens*. The whistle of the blackbird and the lilting song of the thrush, the laugh of the green woodpecker as it wings its dipping flight across the

glades, the delicious crooning of the turtle dove, even the harsh cry of the jay, all lend a fascination to this delightful spot, which it would be almost criminal to disturb. Not long ago, during a time of severe frost, a colony of pied wagtails took up their abode in the *Bamboos* by the side of the pool, and the unwonted sight might be seen of twenty or thirty of these not usually gregarious birds running in companies over the ice to pick up what fragments of food they could find. At all seasons here one may watch at leisure the numberless tits and finches, for their tameness in this their sanctuary is very noticeable.

In face of the vast scientific and economic work carried out with such pre-eminent success at Kew, it might well be that these unique gardens should be available only for the chosen few. Instead of this, the gates are opened wide to all comers the whole year round. It behoves each one of us, therefore, as units of the British public—and more especially of the gardening public, whose debt of gratitude is so great—to be thankful for these our far-reaching privileges, and to do our part in helping rather than hindering the able Director and his hard-working staff in their arduous task of gathering, with such consummate skill, the interests of all classes into one common focus.

[This is a contribution from one of Kew's well-wishers and the outcome of our remarks in *THE GARDEN* of May 10. The Director has been, we know, from paragraphs appearing in the Press, an object of unreasonable—to use a mild word—attack, because in his love for the gardens he strives to preserve their wild flowers and birds. Since the advent of electric trams and "twopenny tubes" the gardens have become nothing more than a suburban park, and the complaining citizen airs his grievance by appealing to the First Commissioner of Works that every inch of space is not his to walk upon. We hope the First Commissioner (the Right Hon. A. Akers-Douglas) will assist the Director in his good work at Kew, and allow him to exercise his discretion in dealing with the wild grounds around the *Queen's Cottage*. Those who go to Kew for study and to enjoy its beauty have as much right to consideration as the general crowd of sightseers and "picnickers."—Eds.]

EDITORS' TABLE.

NEW INTERMEDIATE IRISES.

Mr. Caparne sends from *Rohais*, *Guernsey*, flowers of his charming hybrid *Irises*, which he

calls new "Intermediate," because they flower about three weeks before the Germanica group and bridge over the times of *I. pumila* and the former section. There should be a great future for these Irises, as they possess distinct characteristics with a beautiful variety of colouring. Mr. Caparne sends several varieties. *Dorothea* is of delicate colouring, with broad standards, shaded with softest lilac-blue and somewhat deeper falls; *Royal* is intense velvety purple, especially the falls; *Charmant* reminds one of *Dorothea*, but is deeper in colour and has broader falls; *Dauphin* has velvety purple falls and paler standards; *King Christian* is soft mauve, a very beautiful colour; *Queen Flavia*, rich yellow; *Mars*, warm reddish purple; *Ivorine*, yellow, paler standards than falls; and *Olivia*, with almost white standards and yellowish falls. Mr. Caparne is one of our persevering hybridists, and is accomplishing good work. We cannot have too many Irises of beautiful colouring, and these dwarf hybrids are useful in spring gardening.

FLOWERS FROM IRELAND.

A gathering of very interesting flowers comes from Mr. Greenwood Pim in Ireland. It includes the curious *Tulipa cornuta*, with its narrow petals and strongly reflexed tips; the small bright yellow *Tulipa persica*; the lovely *Veronica lavandiana*, with bloom and pink bud closely pressed together, looking like a mass of neat pink-centred double flowers; *Rhodotypus kerrioides*, with flowers so large that at first sight they looked like *Rubus deliciosus*, which in any case the flower much resembles; *Convolvulus cneorum*, with its large white flowers banded outside with rose colour and its pale satin-like leaves; a hanging scarlet-flowered spray of *Lotus peliorhyncus*, which has been in bloom since Christmas; the beautiful canary-yellow *Calceolaria Burbridgei*; a dainty bloom of *Primula cortusoides amena*, and *Streptocarpus Saundersi*.

NOTES OF THE WEEK.

FORTHCOMING EVENTS.

May 24.—Annual Meeting of the Linnean Society.

May 27.—Annual General Meeting and Dinner of Members of the Kew Guild at the Holborn Restaurant at 6.30 p.m.

May 28.—Temple Show of the Royal Horticultural Society (three days); Annual Dinner of the Gardeners' Royal Benevolent Institution at the Hotel Metropole at 7 p.m.

June 3.—Meeting of the National Amateur Gardeners' Association.

June 5.—Meeting of the Linnean Society.

June 7.—Meeting of the Société Française d'Horticulture de Londres.

June 9.—Committee Meeting of the United Horticultural Benefit and Provident Society.

June 10.—Royal Horticultural Society's Committees meet, Drill Hall, Westminster; Woodbridge Horticultural Show; Cambridge Summer Show.

June 11.—York Gala and Floral Fête.

June 19.—Isle of Wight (Ryde) Rose Show; Jersey Rose Show; Meeting of the Linnean Society.

June 24.—Royal Horticultural Society's Rose conference, Holland House (two days); Lee and District Horticultural Show (two days); Oxford Commemoration Show.

Is Kew a public park?—Pressure upon space compels us to leave over until next week interesting communications in reference to our note last week.

Notes from Baden-Baden.—The *Agapanthus* alluded to by Mr. Barr, on page 311, is *A. Weillighii*, discovered by Mr. Weilligh during a survey in Swaziland. A root was sent to me by my friend Mr. W. Nelson, of Johannesburg. The pendulous flowers, which are bright in colour, give it a very strange appearance. *Iris gracilipes* has been in flower for three weeks and is very pretty;

its white and purplish-coloured flowers come on in succession, and their size is rather large in comparison with the miniature plants. Another new species from Central Asia is just out; it is very near *I. Delavayi*, and the flowers, which have the shape of *I. Niphioides*, are bright indigo, the falls having a broad white stripe. *Aster Fremontii* is well worth cultivating; the flowers are large and of a charming rose-lilac colour.—MAX LEICHTLIN, Baden-Baden.

Wildenia candida.—Surely "G. R." is wrong when he makes out that *Leucocrinum montanum* and *Wildenia candida* are one and the same plant. Both of them are in cultivation at Kew. The *Leucocrinum* is in flower in the Alpine house, and is clearly the plant described in "G. R.'s" note (page 325). But, whereas *Leucocrinum* is a liliaceous plant related to *Asphodelus*, *Wildenia* is a Commelinad, and is related to *Tradescantia*. There is a good figure of it in the *Botanical Magazine*, t. 7405 (1895), prepared from a plant flowered at Kew in 1894, and which was collected in the crater of Volcan de Agua, in Guatemala, by the son of Mr. Audley Gostling, the British representative in Central America. It has tufted fleshy tubers, from which spring annual stems a few inches high, leafy at the tip, the leaves lanceolate, bright green, bearing tufts of white hairs, and clustered in the centre of the rosette, formed by the leaves, the flowers spring in rapid succession; they are pure white, the tube 2 inches to 3 inches long, the 3-partite limb $1\frac{1}{2}$ inches across, and the stamens bright yellow. It flowers annually in spring at Kew.—W. W.

A new Incarvillea.—A most beautiful hardy plant from China, for the possession of which I am indebted to the kindness of M. Maurice de Vilmorin, of Paris, is now in full flower in my garden for the second time. It was figured on one of the coloured plates of THE GARDEN on July 8, 1899, from a plant sent to Kew and bloomed under glass planted out in one of the pit houses, but the plate fails to do justice to the full beauty of the flower, as the colour is several shades paler than it is in the open air, probably from being grown under glass. The French botanist M. Franchet named this plant *I. grandiflora* on the supposition that it was a larger flower than *I. Delavayi*, but I venture to think that a far more appropriate name would have been *I. Fargesii*, after the French missionary, Abbé Farges, who I believe first discovered this fine plant, as the Abbé Delavay did that which deservedly bears his name. In habit and general appearance, especially of foliage, the plants are horticulturally quite distinct from one another, so should have different names. This plant will not be generally seen in gardens for at least two years more, or till 1904, as seed of it was only distributed for the first time last year by Messrs. Vilmorin, and seedlings do not bloom till the fourth year of their age. This plant comes into flower at least a month before *I. Delavayi*. My first flower opened on April 30, and each flower lasts in beauty for twelve days before it falls. I consider it a much more beautiful flower than *I. Delavayi*.—W. E. GUMBLETON.

The Scotch garden designs competition.—This competition, in connexion with the Royal Caledonian Horticultural Society, came to an official conclusion on May 7, when the prizes were published, and all the plans hung up for inspection in the Waverley Market, Edinburgh. I counted twenty-three designs, but one or two were not for competition. Some of them were undoubtedly crude; but on the whole the society has every reason to congratulate itself on giving employment of so beneficial a nature to many young gardeners during the long winter evenings. Several of the designs, in addition to those that obtained prizes, were well executed, and no doubt the adjudicators had a busy afternoon's work in coming to their decisions. Sir John Gilmour, Bart., Montrave, it is said, intends offering prizes next winter on the same lines. Mr. A. Trotter, Coollattin Gardens, Shillelagh, was first; Mr. T. Smith, Cambusdoon Gardens, Ayr, second; and Mr. R. Philip, Botanic Gardens, Belfast, third.—R. B.

Crystal Palace Fruit Show.—The Royal Horticultural Society's ninth annual show of British-grown fruit will be held at the Crystal Palace on September 18, 19, and 20. The prize schedule is now ready, and contains, in addition to the list of prizes, an authoritative list of dessert and cooking Apples, Pears, and Plums. Special prizes are offered for preserved and bottled fruits. Copies can be obtained on application to the Secretary, Royal Horticultural Society, 117, Victoria Street, London, S.W. Applicants should enclose a penny stamp.

Messrs. Carter's Cinerarias.—The Cinerarias, grown chiefly for seed, in Messrs. Carter's nurseries at Forest Hill, have this season been remarkably good, the plants were most vigorous, and the shades of the flowers such as to delight the most fastidious. Some of the flowers that seemed to us to be strikingly beautiful were those of the following colours: White, with blue tipped edges; deep purple-carmine, with a white centre; an intense blue around a white centre; white, the tips of the petals marked with light purple; a rich crimson with white centre; rich purple; pale carmine. The petals of these varieties are of splendid substance, and are unmistakable evidence of the lasting properties of the flowers of Messrs. Carter's strain of Cinerarias.

Notes from North-Eastern Scotland.—A week of terribly cold east winds has checked growth of all sorts in the garden. The blooms of *Magnolia stellata* have been considerably touched. This is the only *Magnolia* I have yet tried, but as it has grown well and flowered regularly ever since it was planted I shall try some of the others, planting them where they will not be so much exposed to the east winds as the position in which *M. stellata* is growing. *Anemone alpina* (var. *sulphurea*) is a beautiful thing, rather difficult to grow I believe on some soils, but here on the light sandy loam it is almost impossible to kill it. It seeds freely, and herein lies an additional attraction, as the heads of seed are large and fluffy, and look almost like small feathery bunches of *Rhus Cotinus*. *Anemone apennina* has been lovely in the grass under the trees; as also has a planting of the common *Fritillaria* under an Oak. This is the fourth year the latter have been growing there, and they have not deteriorated in any way. *Rodgersia podophylla* is a plant that seems to like shade. For several years past I have had it in rather a sunny spot, where it has, with the greatest regularity, been badly spoiled by frost and east wind during the month of May. This year I lifted some roots as soon as growth started and transferred them to a bed of good soil sloping north and backed by a thin growth of shrubs, with the result that they have so far been untouched, while those left in their old position are in a most pitiable condition. *Amelanchier canadensis* is just going over; to my mind this is one of the very best of small flowering trees for the North, very beautiful in flower, and also in autumnal foliage, easy to grow, and most accommodating in every way.—N. B.

Royal Horticultural Society.—At a general meeting of the above society, held on Tuesday last, seventy new fellows were elected, amongst them being Sir John Stirling Maxwell, Bart., Sir Albert Rollit, M.P., Lady Trevor, Lady Stirling Maxwell, Lady Settrington, and Lady Ryder, making a total of 590 elected since the beginning of the present year.

Temple Flower Show.—The fifteenth great flower show of this society, held annually in the Inner Temple Gardens, Thames Embankment, will open on Wednesday next at 12.30. Judging from the large number of entries received the Temple Show promises to be quite up to its usual standard of excellence. The following well-known amateurs are among the names of intending exhibitors:—Lord Aldenham, vegetables; Sir Frederick Wigan, Bart., Orchids; Sir Trevor Lawrence, Bart., Orchids; Hon. A. H. T. Montmorency, Tulips; Captain G. L. Holford, C.I.E., *Amaryllis*; Leopold de Rothschild, Carnations, *Pantia Ralli*, *Caladiums*, and fruit; Alex. Henderson, M.P., fruit; Reginald Farrer, alpine; John Rutherford, M.P., Orchids; J. Colman, Orchids; A. Meyers, *Calceolarias*.

Iris attica.—*Iris attica*, a new species falling midway between *I. pumila* and *I. albiensis*, but much smaller than either, promises to become a useful rock garden plant. The rhizomatous stems are short and caespitose and about the size of a Filbert. They produce five to six leads each—scarcely more than 3 inches high—each lead producing one flower of pretty shape and quaint colouring, averaging 1 inch across and 4 inches in extreme height. They are shaped like those of *I. pumila*, but the parts are much smaller and the falls completely reflex. The standards and style branches and the claws of the falls are bronzy purple, the standards in particular being tinted a copper colour, reminding one of the beautiful colouring of *I. Leichtlinii* of the oncoecyclus group. The blades of the falls are rich purple, but as they completely reflex this is scarcely noticeable. The plant, though sturdy and capable of making rapid growth, is very dwarf, in fact the dwarfest rhizomatous *Iris* I have yet seen. It is very floriferous, one might count a hundred flowers on a square foot of growths. It prefers a wide flat pocket where the plant can increase at will. It grows quite as freely as *I. pumila* in poor soils. A pretty alhino of this plant is even more pleasing; the flower is almost pure white save for the slight tint of lavender on the reflexed falls.—G. B. MALLETT.

Cyphomattia lanata.—I have to thank Herr Max Leichtlin for answering my question in reference to the above-named plant. He will confer an additional favour if he will say whether I am right in inferring from the wording of his note "one plant still in cultivation" that the plant is either difficult to propagate or difficult to keep, or both. I am, of course, aware that it is very rare at present, at any rate in cultivation. I noticed this plant on the rockery at Kew when I was there early in June of last year, and thought it one of the most remarkable new plants I had come across for many years past—remarkable and interesting rather than showy and beautiful. Its habitat was, if I rightly recollect, stated to be Asia Minor, and it belongs, I believe, to Beraginea, though I do not know that this latter botanical truth is altogether "obvious to the meanest capacity."—J. C. L.

Sweet Corn as a vegetable.—In America the Maize or Sweet Corn is a popular dish and well worth extended culture in this country. The plant grows rapidly when seed is sown at this season provided the seedlings are given ample space and a rich root-run with liberal supplies of moisture in dry seasons. I have sown a few seeds in 4½-inch pots in frames and then planted out in trenches or deep drills. The latter plan is the better of the two, as in summer, if the weather is hot, it is easy to deluge the plants with water. It is not necessary to sow under glass, as very good results may be had in the open from the start if the seeds are sown in rows—that is, a few dibbled in 1 foot apart, and the seedlings thinned when above ground to the strongest, 2 feet to 3 feet being allowed between the rows for the large growers. When used as a vegetable the heads are gathered green—that is, before the seeds are allowed to harden—and then boiled and served with melted butter.—G. WYTHES.

Fritillaria Tuntasia.—This *Fritillaria*, referred to by Mr. Mallett, on page 307, resists frost well, a plant which was in bud at the time of the most severe frost of the winter having passed through it uninjured without any protection. It is more desirable than its outward appearance would indicate, but the flowers have to be lifted up so that the interior can be seen. This is a beautiful deep chestnut colour and quite velvet-like. It is a plant more for those who like interesting flowers than for those who like a showy and bright blossom.—S. ARNOTT.

Californian fruit farms.—Beware of the pious old real estate agent, who "just drops in on his way home from prayer meeting" to confer a boon on you, whom he has selected out of all his friends to sell a fruit farm to! Beware, for one of his guileless disposition is naturally badly posted as to the disabilities of said property, especially in minor details, such as number of trees planted, value of crop, amount of water piping, household

conveniences, &c.; the poetic side appealing strongest to him, the beautiful climate, the air, the rocks—in which his ranche abounds generally—all thrown in in trade. He eyes you reproachfully if you express incredulity, and glides off into a scriptural dissertation, and what more do you want? He exudes oil at every pore, fawning on you as he calls you brother, but oh! beware, have a care, he is fooling thee. I wonder if those lines were copyright! See how quickly he produces pen, ink, and paper, and adroitly proceeds to spin his web around you. Then, get out if you can! This is drawn from life, and no fancy picture. His phraseology is deceptive, and he garbles prices in a misleading manner. Of course, when you find out that the taxes are all payable by you instead of by the seller, as he stated, and that the crop is gathered, place run down and poorly piped, why, "He hadn't been all over it; relied on his client's description." The only thing you can rely on is the climate, and he would have a mortgage on that if he could. From all sanctimonious old scoundrels, good Lord, deliver us!—C. MACQUARIE, *Chicago*.

National Rose Society.—By kind permission of the Royal Horticultural Society any member of the National Rose Society, by applying to the Secretary, Royal Horticultural Society's Office, 117, Victoria Street, S.W., on or before Thursday, June 19, can obtain *without charge* one non-transferable ticket to the Royal Horticultural Society's conference on Roses, to be held at Holland House, Kensington, on Tuesday and Wednesday, June 24 and 25. This ticket admits the bearer at 12.30 on June 24. An envelope stamped and addressed must be enclosed. The society's exhibition of Roses will be held in the Temple Gardens, Thames Embankment, on Wednesday, July 2. Three fifty guinea challenge trophies will be competed for, as well as numerous other cups, plate, and money prizes. We have received from Mr. Edward Mawley (hon. secretary, National Rose Society) the schedule of prizes to be given at the Royal Horticultural Society's conference on Roses, and we notice, in addition to the numerous classes for cut blooms, one for a representative group of Roses, placed on the ground in a space not exceeding 400 square feet. The Roses may be in pots or cut flowers in plain glasses, vases, or jars, and not in exhibition boxes. The first prize is the Royal Horticultural Society's gold medal and a £10 silver cup presented by the National Rose Society. The annual report of the National Rose Society for 1901 has also reached us, and from it we learn that "the past year has been an eventful one, owing to the removal of the metropolitan exhibition from the Crystal Palace to the Temple Gardens. Fortunately, the new venture met with very general approval, and, from a financial point of view, has proved as satisfactory as could have been anticipated, considering how difficult it always is the first few years to make an exhibition of this kind pay in London. The contributions to the Temple Rose Show Guarantee Fund amounted in all to £357 7s. A novel feature was the insurance of the exhibition at Lloyd's against loss, should the attendance be seriously affected by the show day being wet. Fortunately, the day on which the exhibition was held proved fine, and the gate-money sufficiently good to prevent any demands being made on the Guarantee Fund. The first exhibition of the year took place at Richmond, Surrey, on June 26, and was the largest southern show held for five years. The northern exhibition, which was held at Ulverston on July 17, was, on the other hand, less extensive than usual. In accordance with the suggestion of Mr. A. Hill Gray, a series of instructions in the cultivation of Tea Roses has been prepared and recently issued to the members under the title of "How to Grow and Show Tea Roses." The thanks of the committee are due to the three Tea Rose experts, the Rev. F. R. Burnside, Mr. O. G. Orpen, and the Rev. F. Page-Roberts, who, at their request, drew up this helpful little treatise; also to Mr. A. Hill Gray for a donation of £5 towards the expense of its publication. The special attention of the members is directed to the Rose conference, which will be held by the Royal Horticultural Society at Holland House, Kensington, on June 24

and 25. This conference has the warm support of the committee, and is likely to be the most interesting and instructive meeting of the kind that has ever taken place. Although the expenditure, owing to the cost of holding an independent show in the Temple Gardens was greater than in any previous year, the receipts have proportionately increased, so that at the end of the financial year there still remains a balance to carry forward to next year of £31 8s. 4d. This the committee cannot but regard as eminently satisfactory, particularly as much of the increased receipts is due to the subscriptions of new members. During the year 200 new members have joined the society. The net gain during the year has been 150 members, bringing up the total number of members on the society's books to 740."

—Arrangements for 1902.—Arrangements have been made with the Devon and Exeter Horticultural Society to hold the southern exhibition at Exeter, which is the most south-westerly locality the society has yet visited, on Friday, July 4. The metropolitan exhibition, by the kind permission of the Treasurer and Benchers of the Inner Temple, will again be held in the Temple Gardens, the date fixed for the show being Wednesday, July 2. The northern exhibition will take place at Manchester, in conjunction with the Royal Botanical and Horticultural Society of Manchester, on Saturday, July 19. It is now sixteen years since the society last held an exhibition in Manchester, and the committee look forward hopefully to revisiting that city, knowing what successful shows they held there in the years 1880, 1884, and 1885. Prizes will also be offered by the society at the exhibition which will be held in connexion with the Royal Horticultural Society's Rose conference in Holland Park.

Growing Iris reticulata.—As this *Iris* grows very well in our garden and at present shows no sign of disease, I am very pleased to tell your correspondent "B. M. B." how we manage it. A friend who grows them splendidly at Bourne-mouth gave me a handful of the bulbs some years ago, and told me to plant them at the end of August or beginning of September in good rich soil, also to take them up every three years in July when they have thoroughly died down; keep them dry some weeks but not too long, and then sort and replant them. They have increased marvellously, and we have them growing in every position about the garden. The clumps that have done particularly well this year were the tiny bulblets of three years ago put away in a rather poor border under young Poplar trees. Some flowered the first spring, many the second, and each clump was a mass of flowers this spring. The border is top-dressed with manure every autumn, and the bulbs are also covered with ashes. We leave the ashes in the spring to protect them from the slugs, which are their great enemies. In more "sluggish" parts of the garden I plant the bulbs in ashes also. The Poplar walk is rather sheltered from winds though sunny. The *Iris* grass is very tall this year and the patches are full of maturing seeds. I am very glad of "B. M. B.'s" advice about *Iris alata*, and shall certainly follow it. I ought to add that our soil is very light and stony. Perhaps it is difficult to grow *Iris reticulata* on heavy clay soils.—E. J. L. E., *near Llangollen*.

Cydonia pygmæa.—The *Cydonia* is always so much liked in the garden that it is pleasant to have one which can be planted in the rock garden of moderate size without seeming too large for its surroundings. Such is *Cydonia pygmæa*, whose dwarf habit is not secured at the loss of any beauty, as is sometimes the way with dwarf plants raised from others of taller growth, and which is probably the origin of *C. pygmæa*. Judging from its aspect and colour one would imagine this little plant to be derived from *C. Maulei*, though precise information on this point is not to be had. At any rate, it is not recognised by the "Index Kewensis." It came to me from Newry in 1900, and flowered a little last year, but it is only this season that one could appreciate its beauties properly. It has never grown more than 2 feet in height here, although the branches have been left unshortened, and it is at present

exceedingly beautiful with its branches simply crowded with flowers about equal in size, but lighter in colour than those of *C. Maulei*. The flowers occupy about half the length of the branch. It is planted beside a large plant of *Arabis alpina* fl.-pl., and the two look well together. The time will probably come when we shall have a variety of colour in this little shrub, and then we should have at command a charming series of *Cydonias* for covering the faces of large stones or low rocks. The habit of *C. pygmaea* is erect, and no fastening up is necessary.—S. ARNOTT.

FRITILLARIAS AND THEIR CULTURE.—II.

(Continued from page 323.)

F. WHITTALLII (Baker).—A plant from Asia Minor, resembles *F. Meleagris* in many ways, differing only in having smaller bulbs, narrower leaves, and in the presence of floral nectaries near the base of each petal, a conspicuous feature in most *Fritillarias* save *F. Meleagris*. It grows 1 foot high, producing one or two olive or citron-green inflated flowers 1 inch across with slightly recurved tips, the whole flower being chequered with dull brown. Though interesting, it is not so charming as *F. Meleagris*.

F. pallidiflora (Schrenk).—A variable but fine species from Siberia, and very distinct. The leaves are recurved, broadly ovate, average ten in number, and clothe a stem 1 foot to 2 feet high. The flowers, numbering four to six, are arranged in a loose raceme, and measure 2 inches in length and span. They are midway between those of *Meleagris* and *Imperialis* in shape, having conspicuous shoulders and reflexing tips. Colour, a pale cream, approaching white with age, prettily veined with olive-green, and slightly spotted on the inside with chocolate, and zoned at the base with pale crimson. The bulbs can scarcely be distinguished from *Meleagris* save in the slightly larger size. There are four forms of this plant in cultivation; the one having buds red on the outside is the best, both in size of flower, purity of colour, and simple culture. It is easy to grow in a border, suffering somewhat from heat and drought in such places, however, unless carpeted with some protective low-growing plant, a feature I have found helpful in the cultivation of many bulbs and almost a necessity with these *Fritillarias*.

F. Elwesii.—A stiffly erect plant recently introduced from Palestine, bears thick fleshed high shouldered, olive-green flowers of *Meleagris* shape, but contracted in the middle and spreading at the tips. The petals are marked with a broad medium line of brown, and the margins are tinted brown, a slight chequering is conspicuous on the inside, and the outer base is zoned with purple. It is the latest of all *Fritillarias* to flower. *F. s'ebertii*, a plant received last year from Asia Minor, will, I fear, turn out to be this species.

F. oranensis.—A similar plant to the foregoing and

interesting to some, has chestnut-coloured flowers, striped with a broad green band down each petal both inside and out, the margins are bordered greenish yellow. It bears five to six flowers, and grows freely, but

it is scarcely to be recommended as a bright garden plant.

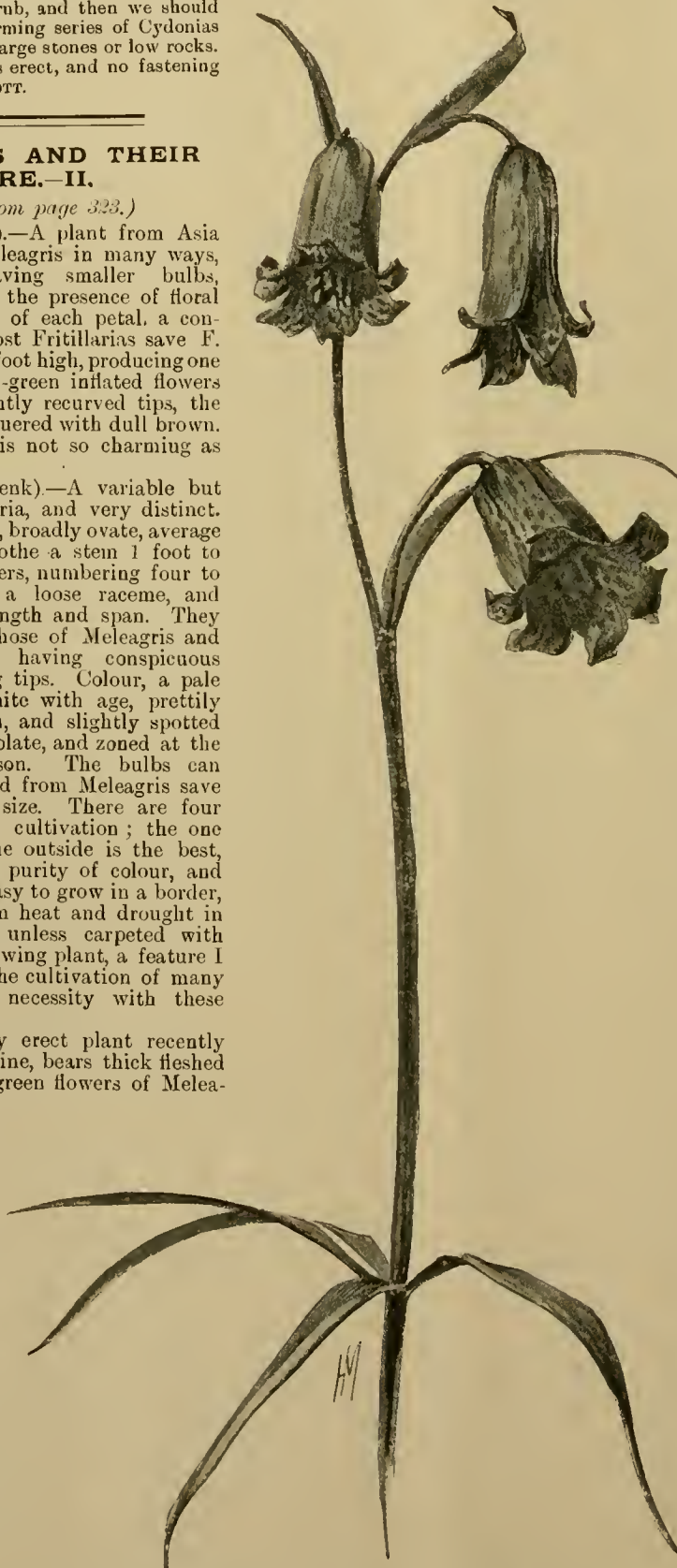
F. Maygridgei (Boiss).—Said to be a variety of *F. delphinensis*, a plant practically unknown to horticulture; bears solitary nodding flowers most like those of *F. aurea*, but with more reflexed tips and with a heavy colouration of brown at the base of the flower. It has all the good attributes of *F. aurea*, with the addition of taller stature. A good garden plant.

GROUP IV.—FRITILLARIA RECURVA AND ITS ALLIES.

These *Fritillarias* are comparatively tall and very graceful, having flat disc-like bulbs, tall slender stems, with leaves arranged in whorls, as in the *Martagon Lilies*. Their flowers are numerous, pendant, and arranged in a loose terminal raceme or spike. The majority are easy to grow, but the best of all—*F. recurva*—still baffles the skill of experts in that it invariably fails to perfect a bulb after one year's successful growth. It grows 2 feet in height, and has purplish stems supporting about twelve elegant nodding flowers, mainly of a yellow colour, and more or less heavily spotted and flushed with soft scarlet. The petals are narrow and reflex at the tips. At night they are closely connivent, forming a slender tube, but during bright sunshine they expand more fully, revealing the terra-cotta coloured stamens and much of the elegant spotting on the inside. I have spent much time in trying to get this beautiful but capricious *Fritillary* to establish itself and thrive. I have grown it best in deep pans filled with half-decayed leaf-soil well charged with sand as a rooting medium, growing the plants in a cold frame, but ripening growth outside. I have managed to save 50 per cent. of the bulbs, all well developed, under this treatment, but I have not obtained any marked success with plants grown outside. Possibly in light sandy soils, with a little loose peat about the bulbs, it may do better. Sand, a good protection to most bulbs, speedily cripples those of *F. recurva*. The practice of growing the bulbs edgewise, once recommended, appears of little value. Hybrid seedlings I have raised between *F. recurva* and other species (the former being the seed parent) all damped off with one accord, whilst hybrid seedlings with *F. recurva* as pollen parent are thriving, so I have been compelled to regard *F. recurva* bulbs as too tender to withstand our wet, wintry climate. In drier and warmer districts it may succeed, but in most places will need the protection of a light whilst resting, and particularly when starting to grow again, maintain so far as is possible a condition bordering on dryness till growth is evident.

F. coccinea, considered a variety of *recurva*, has a better constitution, but in point of beauty is far and away behind the type plant. The bulbs are roundish, between those of *Meleagris* and *recurva* in shape, and the stems grow 6 inches to 10 inches high and bear three or four flowers as a maximum, darker and richer than those of *recurva* but more closely arranged on the stem, thus losing the graceful outline which has made *F. recurva* so famous. It thrives for a year or two on a dry, warm rocky, but never increases, and finally dwindles away.

F. lanceolata, a fine plant 2 feet high, has broadly campanulate flowers an inch in length and breadth. They are disposed in a loose, elegant spike and are prettily netted, and spotted carmine on a citron-yellow ground colour. The three outer petals are tinted with orange on the outside only. The flowers, though not so pleasing as those of *F. recurva*,



FRITILLARIA RECURVA (LIFE SIZE). (From a drawing by H. G. Moon.)

are very bright and curiously marked, and average ten on each spike. The plant when in flower much resembles a Martagon Lily. The variety *gracilis*, a slender-growing plant as tall as the type, has rich claret-coloured flowers slightly spotted



FRITILLARIA PUDICA (LIFE SIZE).
(From a drawing by H. G. Moon.)

with green, and furnished with carmine-coloured anthers. Both these plants are easy to grow in any warm situation.

F. parviflora, a rare and graceful slender-growing plant with long grass-like, whorled leaves, bears a long, loose spike of twenty nodding bell-shaped flowers on slender pedicels. They are coloured olive-green, with carmine margins, and have reddish anthers. The plant has the light graceful outline of *Lilium tenuifolium*, and is worth growing for this reason alone.

GROUP V.—FRITILLARIA ARMENA AND ITS ALLIES.

These little plants are suitable for the rock garden only. They average 6 inches in height and have nodding bell-shaped flowers of some yellow shade. The smallest species,

F. armena, grows about 4 inches in height, and bears charming little golden-yellow flowers under an inch across. To make effective groups the bulbs should be planted freely on little rocky slopes, so that when in growth they will cover the soil. It is not difficult to manage, and, once established, will soon spread from self-sown seeds to various parts of the rockery, where it may be allowed to grow among delicate alpine without injuring them in the least, the growth being very slight. A red-flowered form of this, *rubra*, has rosy flowers with yellow margins. It is often called *F. Zagriga*.

F. pudica, a Californian gem of much promise, grows 6 inches to 8 inches in height, and bears nodding bell-shaped flowers about an inch in length and rich golden-yellow in colour. Newly imported plants have a conspicuous maroon ring at the base of the petals

either because they are scarcely worth growing, save as botanical specimens, or because they are very difficult to grow, not necessarily on account of any inherent obstinacy, but mainly because we have yet to find out exactly what they want.

If one reviews the genus carefully it will be apparent that many of the plants with poor flowers have capital constitutions and many other desirable characteristics of good garden plants, whilst some of those with flowers of beautiful colour lack a sound constitution. It appears there is a splendid field for some painstaking amateur hybridist to work among these *Fritillarias*; much has been done already, but there is work still for the hybridist to do. The majority of the plants are quite hardy, and the seedlings flower in their third year. The majority of *Fritillarias* cross readily, the flowers are easy to manipulate, and no more after care is necessary than would be required in an ordinary seed harvest. Of ten crosses I made last year I got twenty-four capsules of perfected seeds, all of which germinated, whilst with the sister genus *Lilium* I registered over 100 crosses, practically embracing the whole genus. In twenty-five instances I got an average of four and a half ripened capsules, each of apparently good seeds. Of these, alas! but eight lots germinated. It will thus be seen there is greater hope of real success with

on the outside, a feature the flowers lose in the second year. It is one of the first of spring flowers, and for the rock garden is difficult to beat. Though known long ago, it is only during recent years that the plant has been introduced into general cultivation. It received the

first-class certificate of the Royal Horticultural Society in 1896. Since then it has become exceedingly popular, and is now widely cultivated.

F. citrina (Baker).—This comes from Asia Minor, and bears citron-yellow campanulate or bell-shaped flowers on stems 8 inches to 10 inches high. They average 1 inch in length, are slightly green when they first open, the green giving place, as the flowers age, to a citron-yellow, the petals being almost pure yellow. It is a pretty plant of pleasing colour, most suitable for naturalising on a rockery, and thriving in close turf or in the poor soil of a dry border. The plant seeds freely, and the bulbs produce plenty of offsets, developing into flowering bulbs in the second or third year.

Fritillarias are best planted before winter sets in, with the exception of *F. recurva* and its variety, which, if grown outside, should be planted in February, so as to avoid exciting growth too early in the season. A great number of species other than those I have noted are occasionally seen in cultivation. These I have purposely omitted from my notes,

Fritillarias, and the success will be all the greater when one considers that the *Fritillarias* need improvement, a statement I should not care to apply to Lilies. GEO. B. MALLETT.

THE KITCHEN GARDEN. SALADS.

THE cultivation of salads is not the least important of a gardener's duties, for these in many cases are required for daily consumption the whole year round. Of salads, Lettuce may be said to be the most important, so this shall be first considered. By growing suitable varieties of both Cos and Cabbage, and if proper accommodation is provided, there should be no difficulty in obtaining Lettuce throughout the greater part of the year. The best qualities the Lettuce can have are: In spring the property of turning in quickly, in summer to be slow in running to seed, the least susceptible to damp in autumn and winter, and hardiness.

In order to maintain a continued supply of Lettuce seed should be sown at intervals from January to September. In January sow the seed in boxes and place these near the glass in a gentle heat. If the cultivation of Lettuce is practised upon a large scale, instead of sowing in boxes, sow either upon the surface soil of a pit under which runs a hot-water pipe or upon 6 inches of soil, resting upon a mild hot bed composed of two parts leaves and one of stable manure, in a cold frame. From the time the seedlings appear they should be grown sturdily, and must experience no check. Ventilate carefully according to the state of the weather, and so long as there is any likelihood of frost cover the frame every night with mats.

LETTUCE.

The variety selected will depend upon whether the cultivator prefers a Cabbage or Cos Lettuce,



FRITILLARIA CITRINA

(LIFE SIZE).

(From a drawing by H. G. Moon.)

the former turns in, and is ready for use more quickly than the latter. An excellent Cabbage Lettuce for the early sowing is Golden Queen, a sort that is rather under medium size with smooth green leaves. It forms solid, crisp, and tender hearts.

Plants from the early sowing, after being well hardened off, may be planted out on a south border, placing them about 8 inches apart. Instead of putting them out in this manner they may be dibbled in a rather rich and light soil in a warm frame about 7 inches from each other. Grown in this way Lettuces of the most delicious flavour and finest texture are obtained. Should cold, cutting winds prevail after planting the young plants outside, as above mentioned, and in early spring they frequently do, temporary protection, furnished by means of mats or branches of Laurel 1 foot or 2 feet long, must be given. Place these branches in the ground between the plants all over the bed, and there let them remain until the Lettuces are established.

If a Cos variety is required Veitch's Superb White, a selection from Paris White, is excellent. Growing as it does larger than Golden Queen, this variety must be placed at least 2 inches further apart when planted out. About the first week in March a sowing may be made out of doors on a south border. Sow thinly that the seedlings may have plenty of room to properly develop. Whether the sowing is made a few days sooner or later is not material, but take the first opportunity when the ground is in a suitable state, *i.e.*, when it can be trodden or raked without adhering to either one's boots or the rake.

After sowing fix a net over the bed, keeping it a foot or more above the soil by means of sticks. The two varieties recommended above for sowing under glass in January may be sown in early March outside, with, in addition, the Cabbage Lettuce New York. This variety will stand a long time in hot weather without running to seed, and by the time the plants from early sowings are ready for cutting hot weather is not unusual.

Royal Albert, another Cabbage Lettuce, much resembles New York, except that it is a lighter green; both varieties are large, with crinkled leaves, and form large, tender, and crisp heads of the first quality. These attributes considered, together with the fact that they do not easily run to seed, mark them as the best of summer Cabbage Lettuce. Veitch's Chelsea Gem is also a good Cabbage variety for summer, of medium size, with smooth leaves.

Of Cos varieties for summer, Mammoth White is, taking all things into consideration, as good as any, though it is closely followed in point of merit by White Cos.

Whether one or more of these summer Lettuces is grown, frequent sowings are necessary to maintain an uninterrupted supply. As soon as the seedlings from the first sowing out of doors commence to form the first rough leaf a second sowing should be made, and when the resulting seedlings have reached a similar stage, sow again, and so on to the end of the season. During the months of May, June, and July sow the seeds thinly in drills on a north border, making the drills 12 inches apart. At the end of June discontinue sowing the summer varieties, with the exception of Mammoth White, which is sown once more, early in July. Then are also sown Sugarloaf, Grosse Parisienne, and Lee's Immense Hardy Cabbage. The first and last-named are of medium size, and the French variety is large; all are valuable for autumn use. These three varieties are selected for the second sowing in July, which, together with the subsequent sowings, is larger than those made previously, so as to provide a plentiful supply of plants for planting out for the autumn and winter supplies. Early in September the last sowing of the season is made on a south border, the varieties used being Sugarloaf, Lee's Immense Hardy, Bath or Brown Cos, and a good summer Cabbage variety such as Perfect Gem or All the Year Round. The first three mentioned are quite hardy, the last two are more tender, as also are some others that are good for summer use, although they survive mild winters.

As soon as large enough the best plants from the September sowing should be planted out on a south border, there to remain during the winter. They will be ready for cutting during late April and May. Brown Cos is at that season excellent—tender, crisp, and sweet. The smaller plants are left in the seed bed throughout the winter. Should there be insufficient plants from the last sowing out of doors, sow again in October in a cold frame, leaving the plants there during the winter, and plant them out in the spring. Although some varieties of Lettuce are quite hardy when the plants are small, they are much more tender when fully grown and blanched. In the month of October, therefore, some provision should be made to protect them from frost.

Those that are fully grown and are ready for use may be protected by means of mats supported by rods that are attached to short stakes driven into the ground. When there is a likelihood of frost put on the mats at night and remove them in the morning.

The best protection that can be given to autumn and winter Lettuce is to lift those that are well developed (excepting those for immediate use) and plant them in a cold frame or a pit as close together as they can be without being crowded. In lifting care should be taken to preserve as many roots as possible; the plants ought also to be graded into two or three sizes, so that when one cuts them the pit may be cleared by commencing at one end and proceeding uninterruptedly. This practice admits of others being brought in from outside that have developed since the first lot of plants was lifted.

Another method of protecting the Lettuces is to place frames over them as they are growing—rough three-light frames are very useful for this purpose. Mats and long stable litter should be used for covering at night, taking care to place plenty of the latter around the sides of the frame. During mild weather draw the lights off, tilting them at the back instead when it rains. Ventilate every day when the temperature is above freezing point.

From a sowing made late in the month of August, of both Cabbage and Cos varieties, part of a frame or cold pit may be planted; they will provide excellent Lettuce by April. The plants raised from seed in September and put out on a south border, should in January be planted in a heated pit, in soil resting upon a mild hotbed. These quickly develop into plants of the best quality. Cabbage varieties are best suited for this treatment. Plants from a sowing made in January, upon a hot bed, will succeed the first early crop sown in the autumn.

PLANTING.

The distance apart at which Lettuces should be planted depends upon what size they attain when fully grown. Small-growing varieties may be planted 8 inches distant from each other, those of medium size at 10 inches, and the larger ones 12 inches apart. Mammoth may be allowed even rather more space in which to develop.

It is necessary to tie some Cos varieties in order to blanch them, and this should be done a fortnight before cutting. Cabbage varieties should not need tying; those that do require it we do not think worth growing.

To obtain the best Lettuce well cultivated, rich ground is essential. Liberal and frequent waterings are also necessary during hot and dry weather; at no time of the year, whether under glass or out of doors, must the soil be allowed to become dry.

INSECT PESTS.

Slugs are frequently troublesome; as soon as the seedlings appear above ground they often eat them off. We know of no better method of checking their ravages than by dusting over the seeds with freshly slaked lime. This is preferably done early in the morning. During showery weather it may be necessary to do this almost daily. The frequent use of the hoe is an important factor in the successful cultivation of the Lettuce. As a salad

ENIVE

ranks next in importance to Lettuce; it provides a welcome change from the latter, and assists to

maintain the supply of salads well into the winter. The best varieties are Round-leaved Batavian and Green Curled. Successive sowings may be made from June to August; give the plants the same treatment as the Lettuce received, planting as far apart as recommended for the largest Lettuce. Both the above-mentioned varieties must be tied to enable them to be blanched perfectly.

CHICORY

is a good salad for use in January and February when Lettuce is scarce. It has, however, a bitter taste which many do not care for. June is the most suitable time to sow Chicory. Make the drills 15 inches apart, in which the seed is sown, and subsequently thin the seedlings to 6 inches apart. The roots are finally lifted and forced in a dark structure, such as the Mushroom house, in a similar manner as for Seakale.

CORN SALAD OR LAMB'S LETTUCE

makes a welcome addition to the list of salads, for it also is in season when others are scarce, *viz.*, during February and March. Sow in drills 1 foot apart in June, and when the seedlings are well through the soil thin them out to 4 inches apart. Corn Salad is quite hardy.

CELERY

also makes a splendid winter salad, either alone, with the usual herbs, or in a mixed salad. In preparing it cut the blanched leaf-stalks across in small pieces.

TOMATOES

provide a delicious and favourite salad; one may use them alone or in a mixed salad. Their increased utility and popularity are accounted for by the fact that they may be had throughout the greater part of the year.

Other salads are Cucumbers, Radishes, Mustard and Cress, Watercress, Celeriac, Stachys, French Beans, &c.; indeed, there are few vegetables that are not suitable for the salad bowl.

HERBS

play an important part in flavouring salads. Tarragon is in demand every day of the year; from April to October the supply is provided by plants grown outside, and from October to April by forcing. To be able to maintain an uninterrupted supply a fresh plantation of young plants should be made every spring; plenty of roots will then be available for forcing. The soil for the cultivation of Tarragon should be light; if it is at all heavy add spent Mushroom bed manure and burnt earth. This herb is increased by division of the roots. The best roots for forcing are those two years old; they are then a convenient size for placing in pots or boxes. Early October is the best time of the year to lift them.

Salads are very wholesome; they retain properties that are lost by other cooked vegetables. Lettuce and Endive should not be washed if it is at all possible to remove the dirt from them by means of a dry cloth.

Hatfield House Gardens.

G. NORMAN.

NEW AND INTERESTING PLANTS.

KALANCHOE KEWENSIS.

By crossing the bright coloured *K. flammula* with a large white-flowered species called *K. Benthii*, a remarkable and decidedly beautiful hybrid has been raised at Kew. *K. flammula* will be remembered as a new species introduced to Kew from Somaliland and flowered for the first time in 1897. The stock afterwards passed into the hands of Messrs. J. Veitch and Sons, who distributed it. In general habit it is not unlike *K. glaucescens*, but the leaves are fleshy, tongue-shaped, crenate, and the flowers are of an intense scarlet colour. *K. Benthii* was introduced to Kew from South Arabia and flowered in 1900, when it was named by Sir Joseph Hooker to commemorate the services to botany of the late Mr. Theodore Bent, the

archæologist and traveller. The plant that flowered at Kew had an erect unbranched stem 3 feet high, with opposite sub-cylindrical fleshy leaves from 3 inches to 6 inches long, and a panicle of pure white flowers, each $1\frac{1}{2}$ inches long and nearly 1 inch across. It is remarkable that the result of crossing a white and a scarlet-flowered species should be a hybrid with bright rose-pink flowers, whilst the leaves are more or less pinnatifid. There is a good batch of plants from this cross, and they all show the same leaf characters. On the other hand, the reverse cross, *i.e.*, with *K. Bentii* as the mother parent, the seedlings all have simple sub-cylindrical leaves, and they are barely 6 inches high, whilst the hybrid is fully 4 feet high.

ORNITHOGALUM KEWENSE.

This is the result of crossing *O. thyrsoides* with *O. aureum*, and though botanically these are now looked upon as forms of one species, yet for garden purposes they are quite distinct. *O. thyrsoides* has a globose bulb about 1 inch in diameter, bearing five or six lanceolate fleshy green leaves from 6 inches to 18 inches long, and an erect flower-scape over 1 foot in height, crowded on the upper half with campanulate flowers, which are glistening white with a brown-green eye. It is a native of South Africa, where it is common, and for more than a century it has been cultivated in greenhouses in this country, flowering in spring. *O. aureum* has the same general characters as *O. thyrsoides*, but the colour of the flowers is rich fulvous yellow, and they are less crowded on the scape. The hybrid, which is now flowering at Kew for the first time, is like *thyrsoides*, but the colour of the flowers is a soft buff-yellow. In my opinion it is likely to become a favourite with bulb growers. There is a form of *O. thyrsoides* figured in *Jacquin's Icones* II., 20, 438, which has bright scarlet flowers. Is this known to be in cultivation? Possibly some of our friends in South Africa know where it is to be had. It would be a valuable plant for the greenhouse in spring.

CYMBIDIUM RHODOCHILUM.

About two years ago M. Warpur, a Belgian collector, brought from Madagascar a collection of Orchids of more than ordinary interest, among them being *Phaius tuberculatus*, *Cynorchis purpurascens*, and the red-lipped *Cymbidium*.

The last-named plant M. Warpur described as a strikingly handsome Orchid with large flowers, and that it was found only on old plants of *Platyterium madagascariensis*. One of the plants he brought home is now in flower at Kew. It has ovate purple-brown pseudo-bulbs, long, narrow, arching leaves, and an erect spike nearly 2 feet long, bearing about a dozen flowers, each 3 inches across, the sepals and petals pale apple-green spotted with brown, and the large crisped lip of a bright crimson colour.

The "Scarlet *Cymbidium*" has been heard of for years, and it is said to have been introduced into English gardens under the name of *C. Loise-Chauvieri*. Mr. Rolfe, however, believes that the plants distributed under this name were really *Enllophiella Elizabethæ*, which, by the way, is also flowering nicely at Kew.

PITCAIRNEA CÆRULEA.

The blue Puya, as this plant has been called, is known to frequenters of Kew by the beautiful picture of it painted by Miss North in Chili and exhibited in the North Gallery. There is, however, a very fine example of it now in flower in the Mexican portion of the temperate house, where, planted on a rockery along with Agaves, Euphorbias, &c., it has formed a tuft 3 feet across, and is now bearing two stout spikes, 3 feet high, of those indescribably beautiful flowers which have been called peacock blue *Lapagerias*. It is worth a visit to Kew to see this plant.

W. W.

TROPICAL FRUITS FOR ENGLISH GARDENS.

(Continued from page 327.)

PASSION FLOWER FRUITS.

SEVERAL species of *Passiflora* bear edible fruits. The *Granadilla* is perhaps the most

flavour. The best way to eat them is as one takes a boiled egg—that is, cut off one end and consume the contents with a spoon, adding a few drops of port wine instead of salt.

P. maliformis (the Golden Apple) has ovate, entire leaves, and fruits like small Apples.

P. laurifolia (the Water Lemon) also has ovate, entire leaves, and fruits of the same quality as *P. edulis*, but larger. Mr. Abraham Dixon, of Cherkley Court, Leatherhead, informs me that the only way to get this species to set fruits in this country is by fertilising its flowers with pollen from *P. raddiana* (*Kermesina*). He has grown it many years for the sake of its delicious fruits obtained in this way.

The cultivation of these *Passifloras* presents no difficulty. They are stove climbers, with a liking for an open loamy soil and plenty of moisture.

VANILLA.

Vanilla of commerce is the fruit of *Vanilla planifolia*, a climbing Orchid, the cultivation of



THE POMEGRANATE. (The fruits vary in size; these are smaller than usually seen. See page 326.)

commendable, although the Sweet Cup (*P. edulis*) is the more frequently cultivated in this country. The name *Granadilla* has been applied to the fruits of no less than three distinct species, closely allied no doubt, but still botanically distinct. These are *P. alata*, *P. quadrangularis*, and *P. macrocarpa*. They have angular, winged stems, large, entire ovate leaves, and large, egg-shaped edible fruits, considered by some highly delectable, by others not worth eating. The largest is *P. macrocarpa*, with fruits the size and shape of an ordinary Melon or an ostrich egg. *P. quadrangularis* and *P. alata* have fruits about half this size. All three flower and fruit freely under stove treatment. The fruits have a thick rind enclosing a mass of the most deliciously flavoured jelly-like pulp, and numerous small black seeds. It may be made into a conserve of a particularly pleasing quality.

P. edulis (the Sweet Cup) is not uncommon as a stove climber in English gardens. It has trilobed leaves and smooth purple fruits the size of bantam's eggs; when ripe they have a hard rind and an almost liquid pulp of pleasing

which for commercial purposes is principally in Mauritius and the Seychelles. It is a native of Central America. The method of cultivation in Mauritius is as follows:—

It is grown on poles in partial shade in loam, mixed with equal parts of sand and leaf-mould. Manure should not be used, but the soil should be renovated each season with a top-dressing of well-rotted vegetable mould and sand. The bed should be raised about 6 inches above the surrounding surface and supported with stones. Cuttings of the stems from 2 feet to 5 feet long are planted and fastened to the poles up which they are to grow. The soil is kept moist. Thus started they readily take root and grow into flowering size in two or three years. The flowers require to be fertilised artificially. This is accomplished in exactly the same way as Orchid flowers generally are fertilised. The fruits grow to full size in about a month after fertilisation, but they are not mature until they are about six months old. They then begin to change to a yellow colour, when they are gathered, placed in a basket and plunged for half a minute in hot water, and then exposed

to the sun to dry. At night they are kept in a closed box. When they have become soft and brown they are dressed with oil and dried again. When quite cured they are of a rich dark chocolate colour, and when in good condition they are covered with needle-like crystals.

Plants of Vanilla are grown and fruited at Kew, at Syon House, and in a few other gardens. At Syon House Mr. Wythes is very successful with it, bunches of as many as twenty pods, each 9 inches long, having been grown by him. He exposes his plants to full sunlight, except during the hottest part of the day. They are trained against the back wall of a lean-to house

all the parts of the Irish Ivy by about fifty and then you have *Monstera deliciosa*. There is, however, the striking peculiarity in the *Monstera* of perforated or windowed leaves, and the flowers and fruits are of course very different. The former, or rather the inflorescence, is not unlike that of an *Anthurium*, but the spadix is straight, thick, and club-like, whilst the spathe is only partially open and is boat-shaped. The spadix grows to a large size, a foot or more in length, and 2 inches or 3 inches thick. It takes about a year to mature, becomes yellow when ripe, and is then not unlike a huge Corn-cob, but is soft and pulpy, deliciously aromatic, and most

palatable, except that it causes a pricking sensation to some palates. On the whole, I think it better to look at and to smell than to eat. The plant requires plenty of room for its development, a pillar or back wall in a large tropical house suiting it, or the stem of a Palm tree in such a structure as the Palm house at Kew. It would grow equally well on the ground, but it would occupy much space. I have seen it growing in summer by the side of a little pool in a sunny position out of doors in the garden of Mr. Chamberlain at Highbury, but the plant is essentially tropical.

EUGENIA UGNI.

This is a compact little shrub, not unlike a Myrtle or a Box, which grows freely in a greenhouse or even in the open air in the warmer parts of this country. In the garden of Colonel Tremayne at Carclew, near Falmouth, it forms a hedge, and its fruits are gathered annually to be used as dessert or for preserving. They are about the size of Black Currants, and not unlike that fruit in flavour, but they are less juicy and more aromatic. They are said to make a deli-

cious drink. The plant is a native of Chili, but it is now widely distributed in sub-tropical countries. It is easily propagated from seeds or cuttings.

THE GUAVA.

Psidium Guyana is a West Indian Myrtaceous shrub or small tree with numerous branches and ovate smooth green leaves 3 inches long, bearing in their axils clusters of two or three whitish flowers half an inch in diameter. The fruit is globose (var. *pomiferum*) or Pear-shaped (var. *pyriferum*), and is green, not unlike a little Apple, with an agreeable somewhat acid flavour. It is largely grown in tropical countries for its fruits, which are eaten raw or form the well-known Guava jelly.

P. Cattleianum, the purple Guava, is a Brazilian species, with dark crimson fruits, and by some is preferred to the common Guava. It was first noticed by Mr. William Cattle, after whom the genus *Cattleya* was named. He grew and fruited it in his conservatory at Barnet, two crops of fruit being produced by one tree in the same year.

These plants are easily grown either as bushes or trained flat against a trellis. They have a tendency to grow too dense if not thinned somewhat freely every year. A sunny position in an intermediate house is the best position for them. An early Peach house suits them admirably.

LOQUAT, OR JAPANESE MEDLAR.

Eriobotrya japonica is an evergreen shrub or small tree, with thick branches bearing large lanceolate leathery leaves, sometimes a foot long, and terminal Hawthorn-like flowers, which are deliciously fragrant. The fruits are Plum-like, yellow, tinged with red, and they contain a larger core of stones than is desirable. The pulpy portion is slightly acid, very sweet and aromatic, suggestive of an Apricot. In sub-tropical countries the fruit is a general favourite, and it sometimes finds its way to Covent Garden Market. Anyone who has lived in the tropics knows the value of the Loquat as a dessert fruit.

It is a native of Japan and China, where it forms gnarled old specimen trees. It was cultivated and fruited at Kew nearly a hundred years ago. It is grown there still, both in the open air, where it is trained against a south wall, growing vigorously but never flowering; and in the Temperate house, where it both flowers and fruits.

The Loquat is easily raised from seeds or by grafting on the Quince, to which it is closely related. It grows rapidly, soon forming a shapely evergreen shrub, but it requires to be improved in the quantity of "meat" in its fruits ere it can win a place among fruit trees for the English garden. There is a good illustration of it in the "Transactions of the Horticultural Society," III., 299 (1820).

W. W.

BRITISH HOMES AND GARDENS.

BELVOIR IN SPRING TIME.

AT no season of the year is Belvoir so full of charm and interest as in spring time, and, although it then perhaps pre-eminently appeals to the garden lover, the casual visitor will be well advised, if he wishes to see Belvoir at its best, not now to delay his journey. Partly by reason of its artificial gardening is Belvoir delightful, but chiefly owing to the charm of the grounds—tastefully and cleverly planted so many years ago that all signs of artificiality have now disappeared. The spring flower gardening at Belvoir has long been familiar as household words, but few are probably aware of the remarkable collection of trees and shrubs that the grounds contain and to what luxuriance many of them have attained. From the hill overlooking the Duchess' garden is as fair a view of an English garden as one could wish to see. Rhododendrons in great variety, Camellias that are masses of bright flowers and leathery green foliage, splendid clumps of Bamboos of sorts, several *Eucalypti*, *Azara microphylla* many feet high (the flowers of which perfume the air for some distance around), *Berberis Darwinii*, *B. steno-*



BELVOIR CASTLE FROM THE WOODS.

where the conditions are tropical, the minimum winter temperature being about 60°. There is a narrow border at the base of the wall, which is filled with peat, charcoal, and crocks. The plants attach themselves to the wall by means of aerial roots. The pods are placed in a box or drawer to dry, and they then retain their rich aroma for years.

MONSTERA DELICIOSA.

An Aroid with edible fruits is exceptional, the order being remarkable for the acrid or poisonous nature of its juices. The *Monstera* is very similar to a big *Philodendron*, or it might be termed a glorified Ivy, the behaviour of the plant generally being similar. Multiply

phylla and others that are graceful and brilliant in flower, *Azalea amœna*, Ghent Azaleas, and others too numerous to mention.

One part of the steep bank is transformed as it were into a cascade of blossom, for almost every piece of rock or stone, of which there are quantities on the hillside, is covered with drooping masses of purple and white Rock Cresses, and filling the intervening spaces are innumerable other spring flowers—Trumpet Daffodils and Pheasant's-eye Narcissi in bold clumps, colonies of the Crown Imperial and other Fritillaries, Anemones, Primroses, &c.—making this beautifully irregular bank alive with flowers.

Two of our illustrations convey some little idea of the extent and wonderful variety of the spring flower gardening that is practised at Belvoir as in few, if any, other British gardens. Aubrietias play an important part in the delightful combinations that Mr. Divers produces, such sorts as *A. græca*, *A. g. Leichtlini*, and *A. Hendersoni* being used to form a groundwork for Tulips, Hyacinths, &c., or an edging to beds or borders, or they may serve to clothe with a charming and graceful mass of colour rough banks, low walls, and other positions suited to their growth. Tulips and Hyacinths are extensively made use of in the numerous beds of spring flowers, but they are always associated with a carpeting of some dwarf-growing plant, and the blend of colours as seen in the results of Mr. Divers' efforts is quite pleasing. Those who would care to have a list of some of the most useful plants used in the spring flower-beds at Belvoir, and would know how to grow them, should turn to *THE GARDEN* for February 23, 1901, for there, at page 132, Mr. Divers has given much information about them.



SPRING TIME IN THE DUCHESS' GARDEN.

The woods around Belvoir Castle are a continual source of pleasure to the thousands of persons who visit there during the year. In spring the innumerable tints of the varied collection of forest trees and the blossoms of the Cherry trees, that themselves may almost claim to rank with the former, so immense are they, are in charming association, while Primroses stud the ground beneath. Following closely come sheets of Bluebells, which transform parts of the woods into a veritable fairyland, and these in turn give place to

the stately Bracken, lovely in its early summer garb, yet more lovely still when green gives place to the tints of autumn and the bases of the trees are hidden in a sea of red and yellow and gold.

H. T.

RECENT PLANT PORTRAITS.

THE May number of the *Botanical Magazine* contains portraits of

Kniphofia multiflora, a native of Natal. This is a fine double plate, showing the habit of growth as well as the entire spike of this interesting new species. It is one of the very few known species with erect flowers. The individual blooms are pure white, of small size, with prominent yellow anthers. The only other species with truly erect flowers is *K. pallidiflora* from Madagascar.

Berberis dictyophylla, a native of Yunzan in China. This is almost identical with the Himalayan species *B. angulosa*, only differing from it by the young shoots being glabrous. It has yellow flowers shaded outside with red, and bright rosy fruits.

Aloë oligospila (syn. *A. Bakeri*), a native of Abyssinia. This is a pretty variety with pendulous tubular flowers, the inner half of which is pale pink, the outer bright yellow, resembling those of a *Lachenalia*.

Eucalyptus cordata, a native of Tasmania. This is a variety with small roundish foliage of a very glaucous hue, much resembling that of *E. pulverulenta*.

Honckenya ficifolia, a native of tropical Africa. This is also known under the synonym of *Clappertonia ficifolia*. It is a common West African shrub or small tree, found in watery situations from Senegambia to Angola. It produces very beautiful four-petalled flowers of a lovely shade of bluish lilac, with a bunch of yellow stamens in the centre. It is locally known as the Bolo-bolo plant, the name meaning slippery, from the slippery juice given out of the leaves



BEDS OF SPRING FLOWERS AT BELVOIR.

when bruised. It bloomed for the first time in the stove at Kew in September, 1901.

The *Revue de l'Horticulture Belge* for May has portraits of the well-known and beautifully evenly variegated grass *Deysaria elegans variegata*, which requires the protection of a greenhouse from winter frosts, and the beautiful yellow Tea Rose *Souvenir de Pierre Notting*.

The first part of the *Revue Horticole* for May figures Hidalgo Wercklei, the beautiful and now pretty well-known climbing Dahlia of Costa Rica, which was so much admired by all who saw it in flower in one of the annexes of the temperate house at Kew during the summer and autumn of last year. The brilliant orange-scarlet of this beautiful flower is by no means done justice to in this plate, and is much more faithfully represented on plate 7684 of the 125th volume of the *Botanical Magazine* for 1900. W. E. GUMBLETON.

NOTES ON HARDY PLANTS

LILIUM CANDIDUM FAILING.

I DREW attention two years ago to the question whether the failure of *Lilium candidum* might not be due in great part to the weakening influence of late spring frosts. Last year there were few such frosts, and (though I do not assert it as a consequence) the white Lilies generally seem to have flowered remarkably well. This year we have been having very low temperatures in the early morning during this month of May, followed immediately in many cases up till lately by hot sunshine. If my contention be correct, this should prove a very bad season for *Lilium candidum*. Where the sun has caught the frosted plant the collapse and browning of the leaves and stem may occur at once, but where the shelter of surrounding growth or other objects has given protection until the frost has passed off there the leaves may remain green for a time, although weakened, and if later on in the season the climatic conditions are favourable to fungoid growth I fear the Lilies will not have strength to escape its attack. Last season the practice of dusting the bulbs with sulphur was claimed to have been very successful as a preventive measure; it will be interesting to hear how far the same success has been attained this year in those cases where it was tried again in the autumn.

West Sussex.

C. SCRASE DICKINS.

ARCTOTIS GRANDIS FROM SEED.

I WAS surprised to see Mr. Pettigrew describing *Arctotis grandis* as being difficult to raise from seed. The requirements seem to be only moisture in the soil and a certain dryness of the atmosphere. Last year I raised five plants from a purchased packet of seed, from which plants I saved the seed, and this year I have hundreds of nice young plants. The method in each case has been to sow about the end of February in light soil, in an intermediate temperature, the atmosphere of the house being rather dry than moist. I believe they would come equally as well in a cooler house, provided it was fairly dry. The plant is well worthy of extended cultivation, and should be given plenty of space for it is a strong grower.

Great Warley.

T. H. C.

POLEMONIUM CONFERTUM VAR. MELITUM.

SEVERAL of the Polemoniums are capital dwarf-growing plants for the border or rockery, and this pretty variety of *P. confertum* has been fully appreciated since its introduction a short time ago. Its beauty is not of the obtrusive kind, but is sufficiently attractive to appeal to every one, with its elegant foliage of a pleasing green and its numerous creamy-white flowers. It grows from 6 inches to a little more in height, and is easily cultivated in a border or in a rockery "pocket,"

where it can have a soil of moderate lightness, and, at the same time, is not kept too dry. This is not difficult to secure, especially as the plant likes and thrives well in a little shade. I do not know if seeds are obtainable, but it can be increased by division, and is procurable from any of the large hardy plant nurseries where new plants are grown. S. ARNOTT.

DWARF TULIPAS FROM TURKESTAN.

THE stock of early Tulips of dwarf stature has been much enriched of late by the addition of three species of much promise.

T. pulchella—a pretty Oriental species, 6 inches high, with deeply channelled, narrow, and prostrate leafage—bears a rosy crimson flower 2 inches across, with broadly orbicular inner petals and boat-shaped outer ones, flushed on the outside base with streaks of dull violet, and heavily zoned on the inside with rich violet, the extreme centre of the flower being pure white. The bulbs have thick, leathery tunics, packed in several layers like those of *T. persica* and, culturally, they require the same conditions, viz., a light soil in full sun—planting the bulbs rather deeply if the soil be very sandy, and but shallow if the soil is heavy and wet. It is also advisable to bury a large sheet of slate several inches below the bulbs to prevent them from burying their "droppers" at inordinate depths. I cannot yet understand why Tulipas well provided for near the surface should bury their new bulbs so deeply. I have dug out Tulipa kaufmanniana quite 18 inches deeper than I planted it, where it had made a curious-looking bulb in yellow clay, shaped like a man's finger. This particular bulb flowered again but did not bury itself as before, making a normal new bulb. The following year it again made a "dropper" bulb and perished. *T. pulchella*, the plant under notice, shows a marked tendency to descend, though the plants appear none the worse for it. It makes a good rockery plant; its dwarf stature and small yet brilliant flowers are very pleasing. It is a plant one should grow in dozens among dwarf herbage not too strong to overtop them.

T. Townei—a plant of similar stature with rosy starlike flowers, keeled green on the outside and zoned with white on the inner base—should be similarly planted. The flowers are of soft colouring and markedly pretty, resembling Crocuses rather than Tulips in general appearance.

T. triphylla, a dwarf plant, kindred to the foregoing, has lemon-yellow or orange-yellow flowers, which span 4 inches across when fully developed. The flowers are pointed in a bud state, as in *T. elegans*, and give a pretty effect either in bud or when fully expanded. The stems are only a few inches high, in some cases the flowers are but just raised above the soil, hence they are only suitable for rockery planting. The outer petals are flushed with a soft shade of grey when they first expand, but become self-coloured as the flower ages. All these Tulipas hail from Turkestan. They thrive in a fairly light soil and a warm situation free from much moisture.

G. B. MALLETT.

SAXIFRAGA RHEI (SCHOLT).

BREADTHS of this, as well as of its sister variety *S. atropurpurea*, are flowering now in unusual profusion. Both are made in Engler's "Monograph of Saxifraga" to be varieties of *S. moschata* (Wulf), whilst in "Index Kewensis" *S. moschata* (Wulf) is made a variety of *S. muscoides* (Wulf); but the naming of these mossy Saxifrages is too complicated for me to attempt to discuss it. *S. Rhei* would be excellent were it not that a sunny day after a frosty night destroys the delicate pink of its flowers. I find that self-sown seedlings vary much in colour, some reverting to the white type of *S. muscoides*, whilst others from the same plant deepen into dark rich crimson or blood colours. I separated three or four of these last year, thinking the dark colour might be due to soil, as the white reversions were in deep soil, whilst the dark coloured were from seed which had germinated in shallow broken stone; but this year

they retain the full richness of their colour, and make a new and useful shade in mossy Saxifrages. Edge Hall, Malpas. C. WOLLEY DOD.

CHRYSOGONUM VIRGINICUM.

ALTHOUGH the introduction to English gardens of this composite took place several years ago it is still uncommon. The plant is now in flower, and there are certainly few things of the same order more distinct and beautiful. The rootstock is fibrous, producing several runner-like shoots, and the flowers are bright golden-yellow. In a fairly good loamy soil, with just sufficient moisture during the summer, they are usually produced from early spring until autumn, and as the plant is of dwarf creeping growth and not a rank grower it is most useful for rockwork or a border in a sunny situation, but the finest are usually those in poorer or stony soil. Few similar plants are better adapted for pot culture. A native of North America, it is perfectly hardy in this country. G. REUTHE.

A LETTER ASTRAY.

A CORONATION FLOWER-BED.

THE following suggestions for a Coronation flower-bed, evidently not intended for THE GARDEN (in whose pages the subject is tabooed), but for one of those papers that just now are so generously lavish with suggestions embodying not only earnest practicality, but Art in its noblest exemplification, coming to the aid of Nature (Nature, unluckily, does not seem enthusiastic, so far)—having been mistakenly dropped by the postman into THE GARDEN's letter box—seem to deserve publication, although, like the other suggestions they were meant to accompany, they present a few difficulties easily overcome by the amateur—when he finds them out. In the first place, then, considering how notoriously unwilling flowers are to accommodate themselves to purposes of true art, and that the month remaining before the ecstasies day will probably be insufficient for the bursting into full bloom of the purple *Viola* cushions, the blue *Lobelia*, and crimson *Phlox Drummondii* jewels, and the white *Ivy Geranium* monograms, why not supplement the disloyal garden beauties from the vast artistic resources certain to be owned by every loyal household likely to desire flower-beds like these? For example, here is a scheme which in its pathos and patriotism would, I feel sure, bring tears to the eyes of any personage with true art feeling who happened to see it, and it may be applied to either a round, an oval, or an oblong bed with equal elegance and simplicity. The central emblem is of course the crown; but as it would take a really skilled bedder out, accustomed to carpet hedging, and provided with a number of more suitable plants than those mentioned in any of the articles I have seen, to produce anything recognisable in this line, I suggest placing four Bamboos in the centre of the bed, on the top of which a crown made of gilt cardboard can accommodate a pot plant. Four Scarlet Runners will add an effective touch if trained up the Bamboos, and if planted at once will only be three or four weeks late. The groundwork of the bed should equally of course be worked out in the national colours, and what more beautiful or suitable flower can be found for the red part than the Rose, which, managed as I shall suggest, has the advantage of being so very easily obtained. A ring of small branches of *Euonymus* or *Laurel* should be stuck in the ground to form the outline of the bed, and when the deft fingers of the household have fashioned enough red tissue paper Roses these can be attached to their twigs by means of black cotton. This elaborately-planned effect will be best set off if the next ring is of white *Iris florentina*; but as this flower unfortunately only blooms for a fortnight or so, and will be over before the Coronation, its place may be taken by a few cuttings of white *Geraniums*, the striking of which should not be delayed, or some *Eucharist Lilies* could be employed; failing either use some pocket handkerchiefs tied to green flower sticks. The blue portion of the bed can be worked out in turfs of Berlin wool, great care being taken to choose

HOUSES FOR STRAWBERRY FORCING.

ALTHOUGH Strawberries are not produced by artificial means to the same extent as they are grown out of doors in the Kentish fields, they are, nevertheless, cultivated in such numbers in glass houses as to form an important industry. Curiously enough, as the bulk of open air Strawberries are obtained from Kent, so also are those grown under glass, the neighbourhoods of Swanley and Bexley Heath being the chief centres responsible for the early supplies of these delicious fruits. During early spring the prices asked for good Strawberries are very high, and, taking into consideration the expense and labour involved in producing them at such an early season, this is not to be wondered at.

It will be well to first consider the most suitable structure in which to cultivate forced Strawberries, and in doing so we shall find they will succeed in a variety of houses, providing these possess two attributes, viz., an efficient heating apparatus and are capable of admitting all possible light and sun. These two factors play a very important part in the successful forcing of Strawberries. Those who grow supplies for market endeavour, of course, to conduct their operations as economically as possible, and therefore prefer span-roofed houses, because they are less expensive to build and will hold more plants than lean-to structures. So that the plants may have as much sunlight as is possible for them to have at such an early period the span-roofed houses should run from north to south. The one side will then receive the morning sun, the other side the afternoon sun, and the midday sun will benefit both sides of the house equally. For Strawberry culture the houses should be low, otherwise it will be necessary to erect wooden stages so as to bring the plants near the glass, and this would incur

considerable extra expense and labour. The nearer the plants are to the glass within reason (they should not be closer than, say, 18 inches) the better will they flower and fruit. Houses which without any additional arrangements allow of this item being put into practice are therefore the most economical and the best. The height from the central pathway to the apex of the roof should be just sufficient to allow one to walk along comfortably. It need be very little more than 6 feet high. At the base of either slope the roof rests upon short brick walls about 2 feet high.

The houses built by those who grow Strawberries for market vary in length from 100 feet to 200 feet. They are 10 feet wide inside and 6 feet high to the apex of the roof. Along the centre of the house runs a pathway about 20 inches or 2 feet wide, and on either side of this are placed six rows of plants in 6-inch pots, a number that conveniently fills the two beds. The brick walls of the house are 18 inches from the level of the ground outside, and the pathway has therefore to be sunk in order to allow the workmen to pass along conveniently. Several houses are often built, as it were, in one. Supposing three houses to be built together there would be three distinct span roofs but only two solid walls, and these the two outside ones. The purpose of the inner walls is served by brick pillars built at intervals along where the wall would ordinarily be. Whilst giving all necessary support this system admits of a free circulation of air throughout the three houses, and the plants are almost as well off in this respect—if the houses are properly ventilated—as if they were growing out of doors.

We see, then, that if houses are specially built for the cultivation of forced Strawberries, low span-roofed ones are at once the most suitable and economical. These fruits may, however, be obtained in various other structures and equally well also. Better fruits may perhaps be had from a lean-to house facing due south than from a span-roofed one, but for the reasons above given the latter would be preferred by a market grower. Heated pits and frames are particularly well adapted to the forcing of the Strawberry, because one is able without difficulty to keep the plants close to the glass. They have, however, one drawback in that it is necessary to remove the lights in order to give water to the plants. In cold and unfavourable weather this is a disadvantage. Thousands of Strawberry plants are grown on shelves in vineries, Peach houses, Melon houses,

&c., and if they are well looked after in these positions very good results are obtained. Gardeners who endeavour to utilise to the utmost the valuable space in their glass houses will not fail to have shelves placed along the front of the vineries, Peach houses, and high up along the back of them, and Melon houses also. These shelves prove invaluable during winter and early spring in providing accommodation for Strawberries in pots. Cold frames also are very suitable positions for pot Strawberries for a few weeks previous to the latter being placed in heat. A. P. H.

THE FLOWER GARDEN.

HARDY PLANTS FROM SEED AND CUTTINGS.

NOW that the growing season is coming and the best time for raising fresh stocks of most plants, &c., many cultivators will be anxious to raise young plants to replace those that are weak or worn out. The question how best to obtain young vigorous stock is answered by declaring for seed. This is Nature's method; but I fear many gardeners do not study the ways of Nature as they should do. I have been a grower for many years, and am convinced that stock raised from seed is more vigorous than that from cuttings, &c., and I have come to this conclusion after trying both ways. I am well aware that cuttings frequently are the quickest, and in some cases have an advantage over seed, and we could not do without layering for many things. I have seen many a grand batch of *Rhododendrons* raised from a large plant treated thus in the Bagshot Nurseries, and I prefer them thus raised to being grafted. The same may be said of many other things.

Thirty or forty years ago *Gloxinias*, *Cinerarias*, and even herbaceous *Calceolarias* were increased from cuttings. I feel sure the flower-loving public has benefited by the enterprising seed grower who has now placed so many good strains of these in our hands from seed and has removed an old and useless method. Those who travel about often find the method of increasing the stock of hardy plants from cuttings or by division practised, but generally raising them from seed would be a better way. In proof of this I have seen many growers go on dividing their stock of *Lobelia cardinalis* until it was worthless. If seedlings had been occasionally raised the stock would have been in a most vigorous condition.

Of *Delphiniums nudicaule* and *cardinalis*, also *Lychnis haageana*, I always could depend upon strong stock from seed, but not from cuttings. *Calliopsis grandiflora* and its varieties are much benefited by replacing the stock with young plants from seed. When I grew a large-named collection of *Delphiniums* in a light soil I found many advantages from plants raised occasionally from seed. *Saponaria ocymoides* got so weak that I replaced it every two years in this way. I could name a host of other hardy plants in proof of this. Hardy *Primulas* are a case in point, such as *P. rosea*, *denticulata*, and others, and the same holds good with regard to *Polyanthuses* and *Primroses*. All are better when replaced every year or two, according to the nature of the soil and variety. I have never seen *Polyanthuses* and *Primroses* so vigorous from division as from seed. *Wilson's Blue Primroses* will not survive the first year in a healthy condition. I make a rule of raising a new stock every year of this and border *Polyanthuses* and *Primroses*.

Turning again to tender plants, how many are still raising their yearly stock of *Ageratums*, *Verbenas*, and many



STRAWBERRY GROWING FOR MARKET AT BEXLEY HEATH: THE PLANTS IN FLOWER.

things of this kind from cuttings, when the better way would be from seed. Last year I had sent me three packets of seed of *Ageratum* Ada Bowman for trial. This was sown in spring and the seedlings planted out in due course. I have never seen finer or more even beds. Even in the vegetable garden seed propagation is generally advisable. I am beginning to think that it is not all gain going on dividing and replanting the same roots of Rhubarb, Seakale, and Globe Artichokes. Only this year I noticed that the Seakale roots were far more vigorous and free from decay owing to their seedling origin.

Now comes the question as to the variations from seed. Many things vary greatly, while others, through careful selection, come almost identical in colour and growth. Of course care must be taken in raising the seed.

Raising seedlings is also very interesting. In many ways it is a decided gain to have variety; added to this the grower never knows what may occur. How much poorer our gardens would have been had not such men as Mr. Nelson and others worked in this way. Even the new varieties of Mossy Phlox are treasures. J. CROOK.

BENNETT'S SEEDLING ROSE.

I do not think in the whole range of Rose varieties there is a more charming climbing variety than the double white Bennett's Seedling. I have seen many references to it in *THE GARDEN*, so I need not talk about culture, in fact it does not want any "culture," as we use the word. T. R.

[We are pleased to receive our correspondent's note, and also to show this Rose growing in two different ways—over a house front and over an arbour.—Eds.]

HARDY FRUITS IN SEASON.

APPLE REINETTE DU CANADA IN SPRING.

If given cool storage this retains its good qualities well into May. It is not a satisfactory Apple in all soils; it should be allowed ample space and not be hard pruned. The best results in my case have been secured from bush or standard trees grown on the Paradise stock. This variety gives fruit of a large size, too large some consider for dessert, but at this time of year one is not much inclined to grumble at mere size. I find our best keeping fruits are those on low standards in an open position. In well drained soil the trees are rarely pruned, but the wood is lightly thinned at times, whilst the fruits are much liked for cooking when they can be spared. The value of small standard trees is that the fruits are produced in greater quantity and are not so large as on bush trees. For the dessert this is an advantage.

A. C. N.

APPLE LANE'S PRINCE ALBERT IN SPRING.

FEW Apples are more useful than this, as though one of the best for cooking at Christmas it is even more valuable in April and May for dessert. Many growers would not plant Prince Albert for dessert purposes, yet for use at the season named it is excellent. Although the flavour is brisk it is liked by many. This variety is valuable for its free cropping in most parts of the country; we find it crops equally well in the North at Alnwick Castle as in the South at Syon; but in the North the fruits do not colour so well and are more acid, but they keep sound for a longer time. Grown in standard form in the South few varieties crop more freely. In the North the best

fruits are produced on bush trees not hard pruned, and, unlike many other varieties of keeping Apples, Prince Albert rarely fails; indeed, many of our bush trees crop so freely that thinning is necessary. When grown as a standard tree there should be ample room for the branches, as owing to its free cropping the weight of fruit causes the branches to droop if not supported. G. WYTHES.

CORRESPONDENCE.

(The Editors are not responsible for the opinions expressed by their correspondents.)

THE BROOMS.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—In addition to the varieties of the common Broom mentioned by Mr. W. Geldring in his excellent article in *THE GARDEN* of May 10, there is a variety with variegated leaves. The foliage is creamy white and deep green. The plant is at its best about May, and when seen at this season is considerably more attractive than would be expected by those who see it in autumn. My bush has been prettier this season than ever before, and it has now obtained a reprieve from its threatened removal to a more out-of-the-way corner where it was intended to transfer it. It seems as hardy as the common Broom, but the flowers are less freely produced.

Carsethorn, by Dumfries, N.B. S. ARNOTT.

[We have not seen the variegated Broom, but scarcely think a Broom without its full green colouring a pretty object. We merely mention this to prevent any reader adding this to his garden without seeing it first.—Eds.]

SUMMER PRUNING OF FRUIT TREES.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—I am glad to see that your correspondent Mr. Alger Petts, in your issue of April 12, raises a protest against the want of knowledge amongst fruit growers of the principles of summer pruning. The advice generally given is to delay summer pruning till about August, and when the trees have finished their summer's growth to cut them back

to four or five eyes and to shorten the spurs to two eyes in the winter. Now as I understand the matter the great aim in summer pruning is to weaken the lateral shoots, which of course are not required for wood extension, so that they may eventually bear fruit, and this must be done by depriving them of some of the leaves which give vigour to the branch.

As Mr. Alger Petts wisely points out this must not be done all at once, but from time to time, and I would add that it should be repeated as secondary shoots appear. I cannot help thinking that if summer pruning were consistently carried out fruit growers would find root pruning seldom necessary. I lately had a most interesting conversation with a friend of one of the first men who introduced the cordon system into England. He remembers well the description of his friend's experiences in France, where he lived and studied the system for some time; how he used to watch the French fruit growers looking over their cordons in the early morning donned in dressing-gown and slippers and pinching a shoot here and there. When he introduced the system into England he found that the trees made a much more vigorous growth than in France, and that he had to use secateurs in place of his nails. There is one other point that I should like to draw attention to, that is, that "thinning" or "rubbing off" ill-placed or unnecessary wood buds is classified by some as summer pruning; this of course is a very necessary operation, but it only indirectly helps to make the tree fruitful, and I think it would be much better if it were not confused with what is more generally understood as summer pruning. R. T. H.

RUBUS DELICIOSUS.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—Your correspondent, "T. Arnold" (page 277), need not have any doubt that the *Rubus* referred to by him as bearing white blossoms is the true *R. deliciosus*, for the description of the flowers as purple in Nicholson's "Dictionary of Gardening" is one of those errors that will creep into books of such magnitude. The mistake is, however, set right in the Century Supplement to the publication in question, where several additions to the genus *Rubus* are made. It reads thus: "*R.*



BENNETT'S SEEDLING ROSE OVER A HOUSE FRONT. (This photograph shows its wonderful profusion of flowers.)

delicious. — The flowers of this species are snow-white, not red." Every word of your correspondent's note in favour of this *Rubus* is well merited, for it is really one of the most delightful of early-flowering shrubs. It has, moreover, proved quite hardy. *R. deliciosus* is a native of the western or Californian side of the Rocky Mountains, where it was originally discovered by Torrey as long ago as 1822, but its introduction in a living state we owe, I believe, to that enthusiastic gardener, the late Mr. Anderson Henry, of Edinburgh, to whom we are indebted for many beautiful plants. This was in 1870, but, though now over thirty years ago, the *Rubus* in question is not so well known or so generally met with as it deserves to be. To those who regard all members of the genus *Rubus* as Brambles the species in question would scarcely betray its relationship, as it forms an open, much-branched bush, whose slender, gracefully disposed shoots are innocent of spines, while the leaves are Currant-like and soft in texture. The pure white blossoms, like single Roses, are borne in great profusion, usually about the middle of May. Other members of the Bramble family for which a place may in most gardens be found are: *R. odoratus*, with large-lobed leaves and rosy purple blossoms; *R. nutkanus*, somewhat in the way of the last, but with white flowers; *R. biflorus*, from the Himalayas, remarkable from its white stems; the double pink Bramble (*R. fruticosus flore-pleno*), and the cut-leaved *R. laciniata*. This last is, from a fruiting point of view, quite equal to some of the much-praised American kinds.

H. P.

MISCELLANEOUS.

THE HAMMOCK UNDER THE OAKS.—III.

ROSE BRAKE, *May 18*.—I think it has forgotten how to rain, for it really tried this morning, and a few drops fell. The good man, who is always sanguine, called to Totsie and me to hurry in. But I think there were not more than nine drops in all. However, I am grateful to the clouds, which kept off the fierce sun for a little while. Now it is out in full force. May this year reminds me of a heartless young mother, gay and careless, who goes tripping it over the graves of the children she has killed by her neglect.

May 19.—I am so glad that we have had a heavy rain, because I was beginning to feel quite wicked about it. It began when I woke up this morning, and I could hardly believe my ears. It was a steady downpour, that has washed away all my discontent. It rained until about one o'clock, softly but sufficiently. One such rain as that a week would keep the garden fresh all summer. The first Rose opened on the 13th. It was the old-fashioned *Rosa Cinnamomea*, the double pink variety. It grows among the rocks in what we call the Rose Tangle, north-east of the house, in company of many purple Irises and a few pure white ones. Here and there among these rocks are fine clumps of the double white *Narcissus poeticus*, which is as handsome as a *Gardenia*. It blooms in the Rose Tangle every year, and the clumps are never disturbed. The double white *Narcissus* is a most capricious plant.



BENNETT'S SEEOLING AS AN ARBOUR ROSE.

Give it the best attention and feed it on the most delicate compost in a garden bed and it will sulk and have no children, except little blind buds; but give it its own wild will, choked by grass in a neglected corner, and it settles down to a useful life, and lives to a good old age, producing beautiful offspring every year. The Cinnamon Rose is always the first to bloom at Rose Brake; a lovely little Scotch Briar is the second. It has cups of a delicate cream colour, streaked with rose, and very small leaflets, and innumerable small sharp spines. Afterwards the rest of the Roses come loitering along all through May and June. The procession winds up with *Rosa wichuriana* and *Rosa setigera*, the Prairie Rose, and then it begins again with the second flowering of the Teas, which produce blossoms on new wood throughout the summer. Many Roses also have a second blooming period quite late in the autumn, and even up to Christmas in mild seasons, when the autumn rains start them into new growth. I have more than once found the first Cinnamon Rose as early as May 3, and picked the last, *Hermosa* or *Isabella Sprunt*, early in December.

May 22.—The old rock garden is gay with sheets of *Saponaria ocymoides*, with its myriads of saucy little rosy faces, and different kinds of perennial Candytuft and Speedwells make sheets of white and blue here and there. I never made a rockery before last autumn, but this old rock garden made itself in a manner, and is only a natural formation of flat rocks at the end of the wild garden which I have embellished with easy plants such as those I have mentioned. Some white Columbines are beautiful here, and yellow is furnished by quantities of *Alyssum saxatile*, *Achillea tomentosa*, and Buttercups. The new rockery comes on apace, though our only neighbour's rooster thinks it was piled up solely to make him a convenient crowing hill. He scratches up the topmost plants nearly every day, but they are used to it and do not seem to mind. I go out and find *Crucianella* and *Coronilla* with their roots sticking up in the air getting a good

sunning, but as soon as they are reversed and given a bath of water to counteract the sun-bath they go on growing again. I have Columbines, Yarrow, Bugles, Speedwells, *Armerias*, and *Amsonias* all blooming together on this rockery, and likely to do well. I have just fortified the top with more stones to hold the roots down, and now perhaps they will not turn any more somersaults.

May 23.—I am glad I can weed and dig and plant as much as I please and shock nobody, not even the gardener, for I am the gardener myself, and not easily shocked at that. And I think I enjoy my flowers all the more because I have prepared cradles for them, and assisted at their birth, and helped them at every stage from tiny seedlings to lovely blossoming maturity. And I wish I could tell them how much they help and comfort me. And yet, who knows, perhaps they understand. They do look as if they did. Yes, yes, there is certainly an understanding between us. Do they not breathe lovely confidences into my ears every day? And do I not open my heart as freely to them? No one who has a garden of flowers to love and be loved by need complain of being misunderstood. When I go to the garden with my troubles the flowers know just what to do. They do not torment me with senseless talk; they just look at me, and their beauty makes me forget my cares, and their smiles restore me to cheerfulness, and their fragrance refreshes me and strengthens me to bear what I must. And I go away serene again and thanking God for my garden.

May 24.—The new Paeonies are going to be superb. One exquisitely rich rose-coloured one is in bloom, and many others are showing colour. I have a large round bed of Paeonies on the grass of the lawn north of the house, mixed with *Auratum* Lilies. The Lilies will bloom in July and August. These are Chinese hybrid Paeonies, all full and large, some of them with blossoms built up in three stories, with tier on tier of petals, and they are of all beautiful shades of colour, from pure white to deep intense crimson. The pink ones that

have silvery reflections are very lovely, and so are the white ones that have narrow inner petals of lemon-yellow. One kind has peach-blow guard petals, and salmon-coloured, strap-shaped inner ones. Some have beautifully fringed and crimped edges, and many of them are delicately perfumed, like choicest Roses. In another bed I have Pæonies and German Irises. The Irises are in full flower, and are in shades of light blue and white, greyish blue, and clear light yellow. The Pæonies here are a rich carmine, but are not yet in bloom. I think the first will open to-morrow. How impatient I am! Flowers never look cross nor disagreeable. They are like very well-bred people, and do not know how to frown. I believe their mission is to teach us what the highest type of womanhood is. And are they not the best of company—the most purifying? Even when they are dying they only look patient and pathetic, not sulky and rebellious. They die as they live, simply and quietly, and make no fuss about it. I love flowers that take care of themselves, like my hardy Roses, Rockets, Sweet Williams, Cornflowers, and yellow Lilies; indeed, I feel grateful to any flowers that will grow and spread on this dry hill, asking so little of Nature or of man. They endure hardness, and are as strong and sturdy as mountaineers.

May 20.—Every day now, every bright, blissful day, will have its new Rose. Yesterday it was the Copper Austrian Briar, unique in colour among Roses. To-day it is the prettiest of climbers, Mme. Alfred Carrière. She covers a trellis in the Rose garden, north-east of the house. Mme. Alfred Carrière is a Rose of most luxuriant growth and superb health, and yet, from the appearance of her large, loose blossoms, creamy outside and flesh-coloured inside, and from their delicious fragrance, she seems to have Tea blood. I like her so much that I have planted another of her by one of the posts of the wire fence that divides the wild garden from the orchard north of the grove. Here I tried to have a hedge of Roses of different kinds; but Nature interfered and would have none of my little Roses, drying them up and killing them off as fast as I planted them. The fence is built on the top of a sloping shelf of rock. Here and there was found depth sufficient for a post-hole, and now I content myself with planting a Rose to each post. The intervening space is utilised for hardy plants that do not need great depth of soil. A multitude of Morning Glories spring up uninvited and wreath the wires in wilful abandon, a present from Nature, to soothe my feelings for all the little Roselets she killed last year. On the orchard side of the fence Hollyhocks have taken possession, and are already in bud, so that the line of division will be marked in flowers ere long. DANSKE DANDRIDGE.

Rose Brake, West Virginia, U.S.A.

GARDENING OF THE WEEK.

FRUIT GARDEN.

WATERING.

OWING to the deficiency in last year's rainfall and that of the present year so far, it is probable, at least in some districts, that much artificial watering will have to be done to keep hardy fruit trees and bushes in growing condition. Even at this early date those planted against walls with their roots near the surface of the soil, or others with roots ramifying over porous subsoils, should be examined and thoroughly watered if the soil is dry. Arti-

ficial watering should not be practised unless required, but needy cases are at times overlooked until the trees are suffering, when it is too late to wholly remedy the evil. At all times give thorough soakings at suitable intervals, mere dribbles being worse than useless. Mulch with short litter, so that quick evaporation is avoided.

YOUNG FRUIT TREES.

Late planted trees under ordinary circumstances invariably have a struggle to make much headway during their first season, and when severe drought sets in early they cannot even be kept alive without much trouble being taken. Good waterings are very beneficial, also mulchings, but the trees should be well syringed both morning and evening, while their stems may with advantage be entwined with hay-bands. The second year especially after being planted, Apples, Pears, &c., owing to having had their roots lifted when planted and their growth consequently checked, often show a more or less heavy crop of fruit, but the flowers should be removed, as when the fruit is allowed to set the growth of the trees is hindered; therefore, if satisfactory growth is the first consideration, the fruit should be severely thinned.

PEACH-LEAF BLISTER.

Cold north-easterly winds favour the fungus which causes Peach-leaf blister. Attacks of the disease will probably be common, although I may remark that our trees, which are placed upon a west wall and protected by a removable wide glass covering, and also at night by canvas blinds, are perfectly free from it. Spraying affected trees every other day for a time with an efficient fungicide, such as sulphide of potassium dissolved at the rate of 1oz. to two gallons of warm water, will check the malady, but badly affected leaves should be burned.

RASPBERRIES.

These are somewhat late in making their growth, but with favourable weather they will soon make rapid progress and push numerous shoots from their stools as well as suckers, which, if left undisturbed, as is sometimes done, until the fruit is gathered and the old canes removed, will become too crowded. The better practice is to thin the shoots coming from the stools, selecting sufficient of the strongest for fruiting next year, and entirely pull up the suckers. This will expose the selected shoots to the influence of sun and air, which will greatly strengthen them and their buds. Autumn fruiting varieties which have had all their old canes cut down to the ground push up an abundance of growths, which must be severely thinned, otherwise the crop of fruit will prove disappointing. The Raspberry is a shallow but free-rooting plant, and requires plenty of moisture and food. Manurial mulchings and copious supplies of farmyard liquid manure are the best stimulants, but, failing these, a ready-acting nutritious soluble compound should be applied, and preferably during rainy weather.

T. COOMBER.

The Hendre Gardens, Monmouth.

THE FLOWER GARDEN.

SUMMER BEDDING.

In the majority of places the planting out of summer bedding will now have begun in earnest. The exceptionally cold weather experienced during the early part of this month has delayed the planting out of many of the hardier plants, thereby causing a greater rush with this work now that the weather has become a little milder. Most gardeners have decided before this date what their bedding arrangements for this season are to be, so that once the weather is favourable planting can be done without delay. To prevent the use year after year of the same combination of plants in the same beds—no uncommon occurrence in some gardens—keep a register of the bedding arrangements of each season. When, in addition to this, the number of plants used in each bed is noted, a book of this description is useful, not only in making timely preparation for the summer bedding, but also for estimating the quantities of plants required for carrying out one's plans.

All beds should by this time have been cleared of their winter and spring plants and made ready for the summer. Where the summer plants are to be Geraniums, Stocks, and Asters, or even Fuchsias, they can now be put in with comparative safety in the southern parts of the kingdom. All growing in pots should be thoroughly well watered before being planted, and where practicable a depression should be left around each plant and filled with water, and after it has soaked away cover in with fine soil. Plants are often thus saved from the effects of a short drought. This is a better method of attaining this end than of watering the whole surface of the beds. Begonias and plants used for sub-tropical work should now be getting hardened off, and be removed to their summer quarters. There is no advantage in having any of these very large when they are planted out (as the slightest wind is apt to damage them); it is well not to force too much, for they are all the better if short and "stocky."

HUGH A. PETTIGREW.

Castle Gardens, St. Fagans.

INDOOR GARDEN.

BORONIAS.

BORONIAS that have passed out of flower should be cut back, and as soon as growth commences may be repotted, using a hard turfy peat broken into small lumps with an admixture of charcoal and coarse sand. It is important that the compost be very firmly rammed and that thorough and efficient drainage be afforded.

ERICAS.

The soft-wooded Heaths should be cut hard back, the tips only of the weaker varieties being removed, while many of the slow-growing sorts seldom require pruning at all. The same kind of compost as that used for Boronias is suitable for Heaths. They also require the same care in potting and drainage. Boronias and Ericas have very delicate roots, and great care is required in watering. The plants must not become dry, at the same time excessive moisture at the root is as fatal as drought. Soft or rain water should always be used, for hard water will soon injure them.

COLEUS THYRSOIDEUS.

This is a new plant with lovely blue flowers, and as it blooms during winter for a period of two months it is a great acquisition. Cuttings may be inserted singly in small pots and placed in a propagating frame with a good heat where they will soon root. When rooted give more air and pot on, giving a liberal shift each time, using a compost of two parts fibrous loam, one part leaf soil, and one part dried cow manure. Pinch several times and keep them near the glass to secure bushy specimens.

KALANCHOE FLAMMEA

is another valuable plant of recent introduction. Cuttings may be inserted as soon as shoots can be obtained, or it may be raised from seed. It is most useful for decoration, with orange-scarlet flowers carried well above the foliage. We have at the present time in flower, in 3-inch pots, a few good plants grown from cuttings. While these are growing they should be given ordinary stove treatment.

RICHARDIA ELLIOTTIANA

is now in full growth, and may be given occasional doses of liquid manure and soot water. During their flowering period place the plants in the greenhouse.

AZALEAS, GHENT OR MOLLIS,

that have completed their growth should be gradually hardened off and placed out of doors to ripen their shoots for future flowering. Frequent syringings should be given them.

GLOXINIAS.

The early plants are coming into flower, and, although these require a moist atmosphere while growing, it becomes injurious when the flowers begin to open. At this period manure water should be discontinued. Seedlings may be potted on and placed in a pit near the glass and

carefully shaded from the sun. Seeds sown now will produce a display about Christmas. Sow thinly, slightly cover the seed with fine soil, and place in a warm, moist place. JOHN FLEMING.

Wexham Park Gardens, Slough.

BOOKS.

Hints on Planting Roses.—We have received the third edition of this excellent little treatise upon Rose planting. It contains revised lists of choice Roses, and is one of the many useful publications of the National Rose Society, being written by a committee of men who know from experience the best ways of planting Roses. The following Roses for exhibition will show the intention of this treatise, which, although numbering only fifteen small pages, is full of sound information. The following select lists have been compiled from returns recently sent in by the leading amateur and professional rosarians of the day:—List of choice Roses for beginning a collection. Fifty Roses for exhibition purposes. Hybrid Perpetuals and Hybrid Teas. White—Bessie Brown (H.T.), Kaiserin Augusta Victoria (H.T.), Marchioness of Londonderry, Margaret Dickson; blush, pale rose, or pink—Mrs. John Laing, La France (H.T.), Mrs. W. J. Grant (H.T.), Mrs. R. G. Sharman-Crawford, Caroline Testout (H.T.), Her Majesty, Mme. Gabriel Luizet, Killarney (H.T.); medium red and rose—Ulrich Brunner, Suzanne M. Rodocanachi, Marquise Litta (H.T.), Gustave Piganeau, Dupuy Jamin, Helen Keller; crimson—A. K. Williams, Alfred Colomb, Captain Hayward, Marie Baumann, Comte de Raimond, Duchess of Bedford, Victor Hugo; dark crimson—Charles Lefebvre, Horace Vernet, Duke of Wellington, Prince Arthur. Teas and Noisettes. White or cream—White Maman Cochet, The Bride, Muriel Grahame, Innocente Pirola, Souvenir de S. A. Prince. Souvenir d'Elise Vardon; blush, pale rose, or pink—Maman Cochet, Catherine Mermet, Mrs. Edward Mawley, Bridesmaid, Mme. Cusin, Mme. de Watteville, Cleopatra, Ernest Metz, Souvenir d'un Ami; yellow, buff, or orange—Mme. Hoste, Maréchal Niel (N.), Comtesse de Nadaillac, Marie Van Houtte, Anna Olivier, Modea. N.B.—In the above list of exhibition Roses, the varieties have been arranged under the different colours, according to the returns sent in, in their order of merit, with a view to assist those amateurs who require only a small number of sorts.

OBITUARY.

MR. JOHN WILDER.

MR. WILDER, who for nearly 60 years had been employed in the Royal Nurseries, Slough, and who, owing to the commencement of a long and painful illness, had to retire from there a few years ago, died a few days since. He was elected a pensioner on the Gardeners' Royal Benevolent Institution at the last election. His funeral was attended by a number of his fellow workmen, and among the wreaths sent was a lovely one bearing the inscription: "With sincere regret from H. and A. Turner and relations," and another, "With sincere sympathy from the employés at the Royal Nurseries, Slough." He leaves a widow and grown-up family.

SOCIETIES.

ROYAL HORTICULTURAL SOCIETY.

NOTWITHSTANDING the proximity of the meeting on Tuesday last to the great Temple Show, and also the unfavourable weather of the past few days, the Drill Hall was well filled with choice exhibits. Sir Trevor Lawrence's Orchids were a feature, as also was the display of Tulips shown by the various firms. The Calceolarias from Farnham Royal also deserve a word of praise; they were very fine plants.

The Fruit Committee made an award to a new Peach exhibited by Messrs. Rivers, and Mr. Barnes, of Eaton Hall, gained a similar honour for a new Carnation.

ORCHID COMMITTEE.

Present: Messrs. Harry J. Veitch (chairman), James O'Brien, de B. Crawshaw, H. M. Pollett, H. Ballantine,

Walter Cobb, James Douglas, N. F. Biluey, G. F. Moore, E. Hill, H. J. Chapman, W. Boxall, W. H. Young, W. H. White, H. Little, and H. A. Tracy.

Sir Trevor Lawrence, Bart., Burford, Dorking, was awarded the gold medal of the society for an extensive and interesting display of Orchids. The plants were not arranged nearly so thickly as is usually the case at the Drill Hall, and therefore showed to much better advantage. Included were *Masdevallia haryana conchiflora*, *M. ignea*, *M. gairiana*, *L.-C. Lady Miller*, *Erides houletiana*, *Thunia veitchiana*, *Epidendrum Schomburgkii*, fine examples of *Cattleya Mossiae*, numerous *Odontoglossums*, notably *O. malus*, *O. excellens* variety, *Brassia brachiata*, *Masdevallia elisiana*, *L. Cattleya Sunrise*, *Cattleya callistoglossa excelsa*, *Epidendrum Endresii*, and *Cypripedium laurenceanum Hackbridgensis*, and others.

H. T. Pitt, Esq., Stamford Hill, N., exhibited an excellent miscellaneous display of Orchids, full of bright and choice plants in flower. *Miltonia vexillaria* varieties were very fine, and *Cattleya Mossiae*, *Odontoglossum Adriane*, *Sceptre*, *Bulbophyllum* x *Lobbi*, *C. callosum sandere*, *Dendrobium citosinum album*, &c., are a few of many others shown. Silver Flora medal.

Messrs. James Veitch and Sons, Limited, Chelsea, displayed a group of Orchids that comprised several remarkable hybrids. *Lelia* x *Latona* was noticeable, with *Lelia purpurata*, *L.-C. Zephyra*, *L.-C. Ascania*, and *L.-C. hyeana*. *Cyp. Vipanii superbum*, *C. gowerianum magnificum*, *Oncidium sarcoches*, *O. marshallianum* were also included. Silver Flora medal.

A group of *Masdevallias* was shown by the Hon. Walter Rothschild, Tring Park (gardener, Mr. W. Hill). Included were *M. Lindenii*, *M. Veitchianasperba*, *M. Eckhardtii*, *M. Bella*, *M. x Contraludiana* and others. Silver Flora medal.

R. J. Measures, Esq., Cambridge Lodge, Flodden Road, Camberwell, S.E., showed a small group of Orchids that included *Cattleya Schroderae* in various very good forms (C. s. var. *Rainbow* being very pretty), *Lelia purpurata Kromeri*, and the type. Vote of thanks.

Norman C. Cookson, Esq., Oakwood, Wylam-on-Tyne (gardener, Mr. H. J. Chapman), exhibited a small yet very pretty group of Orchids. The feature of the group was made by the *Phaius Hnmblotii* hybrids, two of which were recommended awards of merit. Several very fine *Odontoglossums* were also included. Notably fine was *O. Adriane* Cookson var. Silver Flora medal.

A beautiful hybrid *Lelia*—*L. cinnabrosa* Westfield var. (*L. cinnabarina* x *L. tenebrosa*) was shown by F. Wellesley, Esq., Westfield, Woking (gardener, Mr. J. Gilbert).

W. P. Burkinshaw, Esq., the West Hill, Hesse, near Hull, showed *Cattleya Mendelii leucoglossa* Hesse variety.

Hon. Walter Rothschild, Tring Park (gardener, Mr. Hill), showed *Lelia-Cattleya* x *hyeana*.

De B. Crawshaw, Esq., Rosefield, Sevenoaks, sent *Odontoglossum crassihyanum* and *O. crispum* Raymond Crawshaw.

D. M. Grimdale, Esq., Kent Lodge, Uxbridge Gardens (gardener, Mr. W. Hooker), was given a vote of thanks for a small group of *Odontoglossums*.

G. W. Bird, Esq., Manor House, West Wickham (gardener, Mr. H. W. Redden), also exhibited some very good *Odontoglossums*. Vote of thanks.

CERTIFICATED ORCHIDS.

A first-class certificate was given to

Odontoglossum Adriane var. *Sybil*.—A remarkably fine variety with sepals heavily blotched with chocolate upon a beautiful pale yellow ground. The petals are rather more lightly marked. Towards the centre of the flower the ground colour becomes paler. Exhibited by Captain Holford, C.I.E., Westonbirt, Tetbury.

The following obtained awards of merit:—

Odontoglossum crispum Marjorie.—A flower of unusual shape, whilst the sepals are of almost normal form, the petals are broad, flat, with the margin slightly incurving, they are spotted with chocolate-red upon a white ground, the markings being restricted to near the margin. The sepals are slightly spotted. Exhibited by R. Ashworth, Esq., The Gardens, Ashlands, Newchurch, near Manchester (gardener, Mr. Edmund C. H. Pidsley).

Phaius x Ruby.—The parents of this hybrid are *P. Cooksonii* x *Humboldtii*, and the result is a distinct and pleasing flower. The lip is maroon colour, and the throat lined with yellow. The sepals and petals are of a rather lighter hue than the lip. Exhibited by Norman C. Cookson, Esq., Oakwood, Wylam-on-Tyne (gardener, Mr. H. J. Chapman).

Phaius Phoebe superbus.—The result of a cross between *P. sandierianus* and *Humboldtii*. In this flower the lip is very similar to that of the one just mentioned, except that the markings in the throat are white instead of yellow. The sepals and petals are a lovely rosy buff. From N. C. Cookson, Esq.

Odontoglossum Adriane (Cookson's var.).—This is a pretty variety, the flower being very regularly marked. The cream ground colour of both sepals and petals is heavily spotted with chocolate-red, and the flower is of beautiful shape. From Norman C. Cookson, Esq.

Cypripedium laurenceanum hackbridgensis.—A splendid variety of the well-known *C. laurenceanum*. The dorsal sepal is marked with black-purple lines upon a light purple ground, the margin is white, and there is also a tinge of white in the centre. The lip is reddish black, and the petals are slightly more green. Exhibited by Sir Trevor Lawrence, Bart. (Orchid grower, Mr. White).

Odontoglossum crispum Lady of the Lake.—This is a very attractive flower, fairly large, bold, and of good form. The sepals and petals are tapering, and each is blotched with chocolate-red near the centre, thus forming an irregular ring. On the sepals also are faint tinges of purple. Exhibited by H. T. Pitt, Esq., Stamford Hill, N. (gardener, Mr. Thurgood).

Cypripedium laurenceanum hackbridgensis was also exhibited by H. T. Pitt, Esq.

FRUIT COMMITTEE.

Present: Messrs. Joseph Cheal, Geo. Woodward, T. W. Bates, S. Mortimer, Alex. Dean, E. Beckett, George Kelf,

Henry Esling, Horace J. Wright, G. Norman, J. Willard, Geo. Thos. Miles, and G. Reynolds.

Messrs. Thomas Rivers and Son, Sawbridgeworth, Herts, exhibited dishes of three new Peaches, one of which, Duke of York, obtained an award of merit. The others were Duchess of Cornwall and Prince Edward. The latter is larger and more highly coloured than the former.

Messrs. A. J. Thomas, Rodmersham, Sittingbourne, showed Apple Diamond Jubilee.

Messrs. W. Jewson, Begdale Nursery, Elin, Wisbech, sent a dish of medium-sized brightly-coloured Apples without name.

A box of excellent Royal Sovereign Strawberries, grown within two miles of Charing Cross, was shown by Miss Adamson, South Villa, Regent's Park (gardener, Mr. G. Kelf). Cultural commendation.

Some splendid examples of Cardinal Nectarine, grown from trees in pots, were exhibited by Messrs. Rivers and Sons, Sawbridgeworth. Cultural commendation.

Fruits of Cardinal Nectarine from pot trees were also finely shown by Leopold de Rothschild, Esq., Gunnersbury (gardener, Mr. J. Hudson). Cultural commendation.

NEW FRUIT.

Peach Duke of York.—A fruit of medium size and delicate appearance that is coloured on the sunny side to a rosy red, whereon are discernible spots of a deeper colour. The apex of the fruit is pointed, and the flavour for so early a variety is excellent. Exhibited by Messrs. Thomas Rivers and Son, Sawbridgeworth. Award of merit.

FLORAL COMMITTEE.

Present: Mr. W. Marshall (chairman), Messrs. C. T. Drury, Geo. Nicholson, James Hudson, C. R. Fielder, R. W. Wallace, Chas. Jeffries, F. Page Roberts, Herbert J. Cutbush, N. F. Barnes, Chas. E. Pearson, Chas. E. Shea, W. P. Thomson, E. H. Jenkins, W. J. James, C. Bick, W. Howe, Chas. Dixon, George Gordon, and John Jennings.

Messrs. Wm. Cutbush and Son, Highgate, N., had a display of the double forms of Ghent Azaleas in white, pink, and yellow shades of these charming flowers flanking the ends of a fine central group of the golden Calla, *C. elliptica*, a nice batch of plants, several dozens in all. These were accompanied by background of *Lilium longiflorum* towering well above the other plants named. Palms and other things were pleasing in their abundant greenery. Silver Banksian medal.

Messrs. T. S. Ware, Limited, Feltham, showed one of their interesting gatherings of hardy flowers, alpine, and other allied subjects. In these we noted a good assortment of *Primula Sieboldii*, while other *Primulas* were represented by *P. capitata*, *P. involucrata*, &c. Hardy *Cypripediums* were also well to the fore, *C. Calceolus*, *C. pubescens*, among others, being well shown. A feature in this group were the *Oncocylus* Irises and their near allies—a representative lot, including *I. lupina*, the very rare *I. donglasiana*, with creamy rose-veined flowers; *I. Barnumae*, a purplish crimson, with highly fragrant flowers; *I. susiana*, *I. Korolkowi*, &c. Among miscellaneous things, *Viola pedata bicolor*, *Achillea argentea*, *Aquilegia glandulosa*, *Eranthis speciosa rosea*, *Polemonium confertum*, *Ranunculus serbica*, *Saxifraga aretioides*, *Primula japonica alba*, and *Gentiana verna* were the most noticeable. Quite an exceptional plant and well shown was *Ourisia coccinea*, a rarely-seen plant, with vermilion-scarlet flowers on stems 12 inches high. Alpine *Phloxes*, Tree *Peonies*, and other interesting and showy things completed this group. Bronze Banksian medal.

Messrs. J. Cheal and Sons, Crawley, again showed cut specimens of flowering shrubs, full of interest even from their great variety at this season. Of the more showy, *Exochorda grandiflora*, various *Pyruses*, hardy *Heaths*, *Berberis vulgaris purpurea*, *Ledum latifolium*, white; *Akebia quinata*, *Berberis stenophylla*, rich golden flowers in long sprays; various *Cercasus*, *Lilacs*, and other plants whose foliage is now a feature in the landscape. Bronze Flora medal.

Messrs. Hogg and Robertson, St. Mary's Street, Dublin, set up a fine lot of Tulips, Darwin, Parrot, cottage, and other kinds being disposed in large bunches. In the Darwin kinds, The Sultan, Gustave Dore, rose; Mrs. Cleveland, rosy buff; Early Dawn, clear rose; Rev. H. Ewbank, purplish puce; Nezza, white and blush; La Candeur, white and yellow; Perfection, the yellowest of Darwins; Turenne, purple, edged gold; Edouard Andre, satin-pace and lilac, extra fine; Millet, fine crimson self, with black base; these, with *Phyllis*, nearly white, being among the best of this section. In the Gesner kinds, *Leghorn Bonnet* is a most striking Tulip, the Leghorn-yellow band on the outer petal showing to advantage.

Mr. E. Potten, Cranbrook, Kent, showed such hardy flowers as border *Auriculas*, *Trollius europæus*, *Spiraea chamaedrifolia*, the latter having long sprays of miniature white flowers in great quantity. A new climbing Rose Dorothy Perkins is described with the novelties.

Messrs. R. H. Bath, Limited, Wisbech, also showed Tulips in several sections, Gesner's and Darwin with Parrot kinds largely predominating. In the Darwins May Queen and Clara Butt were very fine. The beautiful yellow *Tulip vitellina* was largely shown, as also were *Bontou d'Or* and *Euterpe*, The Sultan, and Flambeau, the latter trio being of the self or Darwin class. These flowers were shown in capital form, and elicited much praise for their purity of tone and freshness.

Messrs. J. James and Son, Farnham Royal, staged a superb lot of their strain of *Calceolarias*, the plants splendidly flowered and in great variety of colour. Not a few of the plants were perfect examples of the cultivator's art, and were upwards of 2 feet across, the flowers being of the finest description and the dwarf, compact plants generally of much excellence. Silver-gilt Banksian medal.

Messrs. James Veitch and Sons, Limited, Chelsea, also showed Tulips in great variety and in all the sections now in bloom. Apart from many of the Gesner, Darwin, and Parrot kinds, we noted such worthy species as *retroflexa*, *Greigi*, and *ostrowskiana*, the latter a richly coloured sort, very dazzling in full sunlight.

In the self-coloured class, Yellow Queen, Bucephalus, Lawrence, Violet Queen, Bouton d'Or, always a striking plant among late kinds: Propalto, amaranth crimson; Judith, rosy puce; Brunette, together with a great mass of the typical gesneriana in the centre. This is still a worthy and valuable kind for the garden, bold and telling to a degree.

Mr. M. Prichard, Christchurch, Hants, brought a fine display of good hardy flowers, in which we noted various Irides of the germanica type, single Peonies, the beautiful Pyrethrum roseum, several Trolliuses, Ranunculus acrifolius pl., perennial Cornflowers in variety, Phlox canadensis, Scilla nutans rosea, very fine; Linum perenne, Saxifraga Wallacei, very fine; S. macnabiana, a striking plant heavily dotted with crimson; Thermopsis montana, Camassia Leichtlini, a soft blue form of some merit; Lathyrus Silthorpii, with rosy flowers; Alyssum saxatile fl. pl.; Saxifraga granulata plena, a good old plant with double white flowers, and others. Poppies and Tulips were also most showy in this excellent lot of material; the alpine Poppies, Papaver alpinum and others, were also very charming. A few flowering shrubs such as Cytisus and others were also in evidence, Cytisus purpureus incarnatus being marked as very free and suited to rockwork. Silver Flora medal.

Messrs. G. Stark and Son, Great Ryburgh, Norfolk, showed in good condition Viola Royal Sovereign, a good self-yellow and quite rayless. The variety is evidently very free in its flowering and of excellent colour. The individual flowers, too, are of large size. It promises to be a useful kind.

Messrs. Barr and Sons, Covent Garden, were well to the fore with a grand lot of Tulips, the exhibit being especially strong in Darwin kinds, of which a magnificent group was set up. Of these some of the more imposing were Firebrand, Rev. Ewbank, The Sultan, Aurora, Queen of Roses, Clara Butt, King Harold, Ant Kozen, Glow, Pride of Haarlem, Phyllis, Peter Barr, Coquette, The Shah, Loveliness, May Queen, Hecla, and many more, quite a feast of these flowers alone. In addition, there was a nice group of English Tulips, the flaked and striped kinds so much admired by florists, while the Parrot and other late cottage or May-flowering kinds completed a very rich display of these showy flowers. A form of T. gesneriana called Scarlet Emperor obtained the award of merit, while among other novelties were La Merveille, Queen Alexandra, bright yellow; The Pawn, Goldfinder, Ariadne, a freckled flower; and Marjollette, like a small Billefleur in shape. Aximensis is another striking kind, but hardly sufficiently open to see its full beauty.

A few good kinds of May-flowering Tulips came from Messrs. W. T. Ware, Bath. In these we noted Red Dragon, Inglescombe Scarlet, Coronation Scarlet, a pair of intensely crimson-scarlet flowers, each with a black base; Aurora, a golden-orange, with salmon, and Yellow Gem are also of much merit. Innovation, a purplish crimson and cream, with flowers of great size, obtained the award of merit. It is quite a giant in its way.

Mr. John Russell, Richmond, showed a semi-circular group of stove and greenhouse plants in variety, such plants as Pandanus, Begonias of the Rex section, Crotons, Caladiums, Dracenas, several species of Aralia, with Palms, Alocasias, Cissus discolor, and variegated Abutilons figuring in the arrangement. Bronze Banksian medal.

Pelargonium Caroline Schmidt, a bedding kind with scarlet flowers and silvery foliage, was shown by Messrs. Cutbush and Son, Highgate. Malmesbury Carnation Queen Alexandra, a creamy white kind, came from Messrs. R. and G. Cutbush, Southgate, Middlesex.

Messrs. B. Cant and Sons, Colchester, had a fine display of pot Roses, a charming group, that attracted a good deal of attention. Some of the best kinds were Margaret Dickson, Mrs. Cocker, pink; Fisher Holmes, Hon. Mrs. Sharman Crawford, La France, W. A. Richardson, Chas. Lefevre, very dark; Ben Cant, crimson; Mme. Hoste, yellow cream, splendid flowers both on standards and dwarfs; Captain Hayward, Baroness Rothschild, and Mrs. John Laing. The copper and yellow Austrian Briars were also shown in good bloom. Silver Flora medal.

Messrs. W. Paul and Son, Waltham Cross, also had a fine display of Roses in pots, many of the plants of large size. Of these we noted Duke of Edinburgh, Enchantress, La Rosière, May Queen, Grace Darling, Mme. Moreau, Gloire Lyonnaise, pure white; Duchess of Albany, Soleil d'Or, Griss on Tepitz, shown as a climber, and very freely flowered; Emperor, very dark; Climbing Belle Siebrecht, with splendid flowers, being of the best. Bronze Banksian medal.

LIST OF AWARDS.

Awards of merit were given to:—

Carnation Duchess of Westminster.—A grand flower of the Malmesbury type. The colour is a full pink, with salmon shades on the inner surfaces of the petals. The variety is strongly fragrant, and may certainly be classed as one of the best additions to this group for many a day. Shown by the Duke of Westminster, Eaton Hall, Chester (gardener, Mr. N. F. Barnes).

Iris Barwone.—A dwarf member of the Oncocyclus group, with almost self purple flowers. It is fragrant at certain stages, and the species is one of the hardiest. From Messrs. T. S. Ware, Limited, Feltham.

Narcissus Agnes Harvey. evidently a seedling from N. triandrus. The flowers are white and from one to three in a scape, the short cup being well expanded at the rim. A curious feature is the yellowing of the tube in nearly all the flowers. Shown by Miss Spurrell, Hanworth, Norwich.

Tulip Innovation.—A flower of great size, even among Tulips. The colour is purplish crimson and cream, with occasional spots of the former on a creamy ground. Shown by Messrs. W. T. Ware, Limited, Bath.

Tulip Scarlet Emperor.—A large May-flowering kind of an intense crimson-scarlet, with yellow base. A most striking flower. Shown by Messrs. Barr and Sons, Covent Garden.

Rose Dorothy Perkins (Climber).—A charming new climber, allied to wichuriana. It is evidently a remarkably free-flowering kind, the flowers appearing in trusses after the Rambler class, while the soft pink colour will doubtless

appeal to all lovers of good climbers. Shown by Mr. E. Potten, Cranbrook, Kent.

LIST OF MEDALS.

Silver-gilt Banksian.—Messrs. J. James and Son, Farnham Royal, Slough, for group of Calceolarias.

Silver Flora.—Messrs. B. R. Cant and Sons, Colchester, for group of Roses in pots; Mr. M. Prichard, Christchurch, Hants, for group of hardy flowers.

Silver Banksian.—Messrs. Cutbush and Son, Highgate, N., for group of Richardias and Liliums.

Bronze Banksian.—Mr. J. Russell, Richmond, Surrey, for group of stove and greenhouse plants; Messrs. W. Paul and Son, Waltham Cross, N., for group of pot Roses; Messrs. T. S. Ware, Limited, Feltham, for group of hardy flowers.

Bronze Flora.—Messrs. J. Cheal and Son, Crawley, Sussex, for group of sprays of hardy trees and shrubs.

THE LECTURE.

A most interesting and instructive lecture upon the origin, properties, and classification of the English Tulip was given by Mr. A. D. Hall, until recently Principal of the Agricultural College, Wyke, and now at Rothamstead. The lecturer said that in 1559 the Tulip was brought by Gesner to the gardens of Western Europe, and previous to that period there was not much recorded history concerning it. Tulipa gesneriana was purely a garden variety, and, as to the original species, whence the florists' Tulip had developed they were quite in the dark. In the eighteenth century the Tulip became popular in England, and early in the last century a number of London florists were working at the improvement of the English Tulip. In the sixties and seventies it reached its maximum popularity. Mr. Hall then emphasised the distinguishing characters of the English Tulip. First, the flower must be pure—there must be no speck or tinge of colour at the base. If a white flower then it should have a white ground; if a hizarre then the base should be wholly yellow. Secondly, it must be cup-shaped, the petals must be broad and rounded, not pointed at the tip. Thirdly, as to the markings—these should be repeated with exactitude upon each petal. The contention of those who despise florists' flowers, by reason of their set rules of shape, markings, &c., was then discussed, and the lecturer said that the criterion of the florists' Tulip of to-day was a tradition, for florists had aimed to produce what in their experience was calculated to bring out the highest points of excellence.

With regard to classification the English Tulip is divided into white grounds, and yellow grounds known as bazarres. The white grounds were again sub-divided into those with rose, and those with purple or violet markings on the petals. Another curious division was the breeder Tulip, which term is applied to the seedling flower before it has commenced to break away from the self colour. Sometimes, said Mr. Hall, it will be ten or more years before breeder Tulips will develop markings. Flowers with markings are divided into feathered and flamed varieties, according as they are marked round the edge of the petals only or down the centre. Many useful cultural hints were also given, chief of which were: Do not protect the plants during winter, give them an open border and poor soil, but protect them from severe weather when the buds are unfolding. The English Tulip also does remarkably well in the smoky suburbs of large towns. The lecturer concluded by saying he knew of no flower whose culture could be more strongly recommended to the amateur who cared for a flower for its own sake. A very hearty vote of thanks to the lecturer brought the meeting to a close, the chairman (Mr. George Gordon) remarking that a few similar lectures would do much towards making the English Tulip again as popular as it was thirty or forty years ago.

MANCHESTER ROYAL BOTANICAL AND HORTICULTURAL SOCIETY.

THE gardens of this society at Old Trafford again attracted lovers of horticulture from far and near from May 17 to 22. The exhibits this year showed a decided falling off; possibly this may be attributed to the late cold season and that Whitsuntide was rather early. Although it is far more pleasant to write of an increased quantity, this is not so important as quality, and on this occasion Mr. P. Weathers, the able curator, is to be congratulated upon the high quality of material that has been staged in reply to his invitation. Amongst novelties the fine collections of late flowering Tulips stood out most prominently, and were very much admired.

ORCHIDS.

As usual these formed the most attractive section of the show, and the quality throughout was of a very high order.

For the best amateurs collection in bloom, E. Ashcroft, Esq. (gardener, Mr. H. Holbrook), Wilmslow, gained chief honours with a well grown lot, in which Miltonias, Odontoglossums, and Dendrobium Victoria Regina appeared to advantage. W. Duckworth, Esq. (gardener, Mr. H. Tindall), Flexton, and W. E. Watson, Esq. (gardener, Mr. E. Thompson), Stratford, were placed as named.

For the best collection for nurserymen, Mr. J. Cypher, as usual, staged the premier collection with a very fine bank, in which Odontoglossum crispum in variety proved highly effective amongst many other noteworthy plants, such as Lelia digbyana, Cypripedium niveum, &c.

For the best collection of Cattleyas and Lelias, the Cheltenham firm again was first, the pick of a good lot being Cattleyas Mendelii, Skinnerii, and citrina; Lelias russelliana, purpurata magnifica, &c.

For a collection of Odontoglossums, Mr. John Robson, Altrincham, was awarded second prize.

For ten Orchids in bloom, Mr. Cypher was in his accustomed position with fine plants of Lelia purpurata, L. p. Williamsii, Cattleya Skinnerii ocellata, Cypripedium villosum, Odontoglossum crispum, Oncidium marshallianum, Dendrobium nobile, D. n. majus. Mr. J. Robson third.

MISCELLANEOUS PLANTS.

The best local group was from James Brown, Esq. (gardener, Mr. J. Smith), Heaton Mersey, who won with a pleasing arrangement in which Deutzias, Caladiums, and

Rose Crimmon Rambler in arches proved highly pleasing. For ten stove and greenhouse plants, Mr. Cypher was again to the fore with well flowered plants of Pimelea Hendersonii, Anthurium schertzerianum, Clerodendron Balfourii, Hederoma tulipifera, &c.

The groups at this show are always excellent, and this season they were fully as good as usual. In the amateurs class for a group not less than 200 feet square, Messrs. Baxter, Esq. (gardener, Mr. F. Jonison), Bowdon, was a good first, using soft wooded flowering plants with a few Lelias to advantage. Palms were extensively used also. Mr. B. Upjohn, Worsley Hall, was second, in which light coloured Rhododendrons were prominent. Thomas Harker, Esq. (gardener, Mr. Thomas Mulloy) was a good third.

In the nurserymen class for a group not less than 300 feet square, Messrs. R. P. Ker and Sons, Liverpool, gained chief honours with a combination alike creditable to the designer and interesting to the visitor. Palms and Bamboos broke up a groundwork in which foliage Begonias, Anthuriums in the newer varieties, Crotons, Caladiums, &c., were most effective.

For six fine foliage plants (amateurs), J. Lamb, Esq. (gardener, Mr. S. Vickers), Bowdon, and W. Baxter, Esq., was second and third.

For a collection of Roses, J. Brown, Esq., was well ahead with plants of clean foliage and good blooms; T. Harker, Esq., followed.

For a collection of hardy herbaceous and alpine plants (amateurs), J. Lamb, Esq., was first with an excellent lot. For not less than twelve, Messrs. John Thorley and J. W. Thorley were first and second.

In the nurserymen's class, Mr. W. H. Thorley, Chorlton-cum-Hardy, won with a good display, Mr. J. Derbyshire second.

Six hardy Ferns (amateurs), J. Lamb, Esq., was to the fore with fresh plants; Messrs. T. Harker and G. Hodder followed as named.

Collection of Amaryllis: Messrs. Ker secured the gold medal with a grand lot, in which substance and form were remarkable.

GOLD MEDALS.

Messrs. Charlesworth and Co., Heaton, Bradford, fully deserved this honour for a grand display, in which Odontoglossum crispum was noticeable for fine spikes and high quality.

Messrs. Hugh Low and Co., Bush Hill Park, for a table of miscellaneous plants of Ericas, Schizanthus in variety, Carnations, and Orchids, including large masses of Cattleya Skinnerii.

Messrs. John Cowan and Co., Gateacre, for a group of Orchids, Odontoglossum wilkeanum King of Spain being excellent.

SILVER MEDALS.

Messrs. Dickson and Robinson, Manchester, for a large array of Darwin and May flowering Tulips.

Messrs. Barr and Sons, London, for a similar beautiful display staged in bank form.

Messrs. Alex. Dickson and Sons, Belfast, for a very fine lot, showing splendid culture, the flowers being very large.

Messrs. John Waterer and Sons, Bagshot, for group of hardy Rhododendrons, in which Pink Pearl, with its large handsome trusses, was most distinct.

FIRST-CLASS CERTIFICATES.

Messrs. Charlesworth and Co., for Odontoglossum Pescatorei Charlesworthi, a very fine form with violet spots; O. Halli Heatonense, Lelio-Cattleya Major-General Baden-Powell, and Odontoglossum crispum Gladys.

E. Ashcroft, Esq., for Cattleya Skinnerii E. Ashworth and Cypripedium Mrs. A. W. Sutton.

J. Cypher, Esq., for Cattleya Mendelii superbissima, Dendrobium nobile virgineum.

Messrs. Sander and Co. for Odontoglossum andreanum gemmatum, Anthurium schertzerianum E. Rogerson.

Messrs. R. P. Ker and Sons for Amaryllis Lady Rose Molyneux, Goliath, and Magnificent.

AWARD OF MERIT.

Messrs. Charlesworth for Lelio-Cattleya G. S. Ball superba, L.-C. Higbysworth nobilior.

Messrs. Sander contributed a table of Anthuriums and Orchids, many of the former being of fine form and colour.

Misses Hopkins had a small collection of alpine, and a large display of horticultural requisites and garden novelties were displayed on the lawn.

The adjudicators were Mr. P. Blair, Trentham; Mr. N. F. Barnes, Eaton Hall; Mr. W. Stevens, Stone; and Mr. W. H. Young, East Sheen. As usual Mr. P. Weathers, curator, and his efficient staff carried out the arrangements in the most creditable manner.

EAST ANGLIAN HORTICULTURAL CLUB.

THE May meeting of this club, held at Norwich, was well attended. Mr. J. Powley and Mr. T. B. Field occupying the chair and vice-chair respectively. A well-written essay by Mr. Field was read, entitled "How to grow Tomatoes inside and outside." The subject gave scope for an animated discussion, especially the points relating to the length of time of securing ripened fruits from date of seed sowing and to the proper class for exhibiting the Tomato. On this latter point much interest was taken, one speaker stating that he was quite recently ousted from a first prize by Tomatoes overruling a bunch of Asparagus. Of course, as was clearly defined by Mr. E. Peake, botanically it could be nothing else but a fruit, but then since it did not commend itself to the palate unaided it was perhaps better classed as a vegetable. Against this a member said a large percentage of the fruits were eaten as grown raw, the same as a Melon. The pros and cons were still being advanced when the closure had to be applied, leaving the subject still open. There was a charming exhibition of flowering plants, cut flowers, and Asparagus. Mr. E. Peake brought a splendid plant of Ramondia pyrenaica, which, with its perfect roseate of foliage and dainty bluish blooms, was much admired. Mr. T. B. Field had a grand bunch of Mâché Niel roses, rich in colour, brought to demonstrate the vigour of a tree over twenty years old, mentioned in a paper some time ago.

THE GARDEN

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[MAY 31, 1902.]

THE TEMPLE SHOW.

IN brilliant sunshine the annual exhibition of the Royal Horticultural Society opened in the peaceful grounds of the Inner Temple on Wednesday last, and once again the tents were filled with flowers of all kinds, from Orchids to hardy plants, fresh and interesting in their variety in spite of a spring that, until the eve of the show, had forgotten its name.

A week ago a cold north-easterly wind and drenching rains swept across our gardens, blighting the early crops, punishing the flowers, and spreading disaster in many districts, with, unfortunately, permanent results. But its traces were not evident to the casual visitor at this three days' representation of floricultural pursuits in England, although we missed many familiar displays, partly for the reason that the weather had upset all the intending exhibitors' calculations, and in one or two instances the required extent of space covered could not be given to provide an adequate representation of those exhibits we have regarded as amongst the most delightful in the show.

But the Royal Horticultural Society is helpless. The Benchers of the Inner Temple, who so kindly permit their grounds to be used for this show—a compliment now extended to the National Rose Society—will not allow more accommodation than existed when the first exhibition was held years ago, and thus many excellent displays are unavoidably squeezed out or shorn of much of their former splendour.

Our report shows that the usual features were provided, and the truth is one Temple show is a reflection of the other, for the good reason there is small opportunity for beautiful grouping; but the keen lover of hardy flowers, of trees and shrubs, of Roses, of Orchids, or of pot fruit trees looks forward to the Temple show as a time of taking notes, of journeying from the country garden to see the treasures there collected and generally displayed to conspicuous advantage.

The Royal Horticultural Society is becoming a power in the land. It has fought a stern battle against procedures as old-fashioned as the gardening of the early Victorian era, and is winning recruits determined to make horticulture one of the most important industries of the United Kingdom, whilst we are not forgetful of its beneficent influence in the quieter pursuit of gardening that concerns the private domain. It is entering upon

an interesting era in its history, an era represented, we hope, by the Hall, which the Council has pledged itself to erect as a memorial of the centenary, and therefore the exhibition that has just closed was of greater interest to the thousands of well-wishers of the Royal Horticultural Society than even its predecessors.

We have had occasion to congratulate the secretary more than once upon the brilliant displays in the Temple Gardens, and we do so again as heartily, perhaps more so, than before, and in doing so are mindful of his excellent assistants who loyally work in everything that concerns the Society to make it stronger and more popular as the hundredth anniversary approaches. The Council and all concerned have no reason to fear the success of the Hall when such interested crowds pour into the tents as were seen during the present week.

To write more is only to repeat what has already been recorded on previous occasions. The Temple show of the Coronation year will remain a pleasant memory; it was a beautiful and interesting exhibition, but was somewhat marred by heavy rains during the first afternoon.

The King and Queen, accompanied by H.R.H. Princess Victoria, paid a private visit on Wednesday morning.

RAISER AND WINNER.

ON first-class certificates I would here ventilate a question concerning seedlings of our classical florist flowers, whether when offered for such distinction, or on having it conferred upon them. In the language of the conventional legal illustration of "Doe and Roe" or the equally supposititious parallel "M. or N.," I hold that if floricultural Doe raises a seedling, which he privately entrusts to cultural Roe, and Roe wins a first-class certificate with it, then Roe should be careful that, along with his name as winner, there should equally go the name of Doe as the raiser. Otherwise there is nothing to show that Roe is not entitled to be reckoned as both winner and raiser. In fact, the inference is that he is, which is unfair to Doe, where these honours are divided. I am thinking specially of the florist Auricula, with which the raiser's name, at least in older times, was always remembered, and faithfully coupled co-ordinately, e.g., Page's Champion, Litton's Imperator, Leigh's Colonel Taylor, Taylor's Glory, Syke's Complete, Ashworth's Regular, Headly's George Lightbody, Lightbody's Richard Headly, and from these ancient heights down to Ann Clough's Jingling Johnny. But nowadays are to be seen first-class certificates gained by exhibitors whose sole merit was that for cultivation, i.e., the development of a plant or flower already "in that case made and provided."

Another cognate point is this: Suppose M. gives N. a few Auricula seeds out of which may arise a flower a stride ahead of its day. Who is the real raiser? I hold that it is rather the man who was instrumental in producing that seed than he who simply helped it to grow. Of course, if M. sells his seeds he is so far "out of it," that he has accepted some equivalent for his title, and the customer takes the direct glory, though like the inverted image of a strong rainbow some radiance of a reflected light may be, in such way, shed on him. *Palmar qui meruit ferat.*

FRANCIS D. HORNER, V.M.H.

NAMING ALPINE PLANTS.

A CORRESPONDENT lately wrote from the Italian Lakes asking if we would publish the names of persons who might be referred to to name plants found in that and other mountain localities in the great European chain. Specimens can always be sent to THE GARDEN office for naming, but as our correspondent may wish to save the extra cost of foreign postage we should be glad to hear from any of our foreign readers who may be willing to name plants sent.

The querist also asks for names of persons with a knowledge of the wild mountain plants of interest who would indicate where they may be found. Any such information we regret that we must absolutely decline to publish. Already the more easily reached alpine regions are being robbed of their plants in a way that has in some places achieved, and in many threatens, their local extermination. As members of the excellent "Society for the Preservation of Alpine Plants" we desire to do all in our power to prevent reckless collection. We feel sure that our correspondent, himself a careful amateur, and no doubt a reverent admirer of the lovely jewels of alpine vegetation, would personally do nothing to destroy a habitat, and could be trusted with such knowledge in his own person, as indeed might be the case with many others; but our pages are open to all the world, and it is highly undesirable that such information should be made public.

EDITORS' TABLE.

FLOWERS FROM BELGROVE.

We have received from Mr. W. Gumbleton, Belgrove, Queenstown, Ireland, a wonderful gathering of flowers from his garden, remarkable alike for their rarity and beauty. First we find

INCARVILLEA GRANDIFLORA.

This is the flower mentioned by Mr. Gumbleton at page 334 of THE GARDEN for May 24. It is a far superior flower to I. Delavayi, being larger and of a colour with which that of I. Delavayi does not bear comparison. The flower brought by Mr. Gumbleton measured 3½ inches across; the petals are of a soft deep rose, the colour becoming

richer still towards the centre; the throat is yellow, faintly spotted with purple, and there are white markings at the mouth. As Mr. Gumbleton says, the coloured plate given in THE GARDEN of July 8, 1899, does not do justice to this flower. The colouring of the one before us is altogether deeper and richer than the one represented in the plate, and the flower is larger. The more intense colour may, however, be due, as Mr. Gumbleton says, to the flower having been grown in the open.

OLEARIA INSIGNIS.

Quite the most handsome of the Olearias is insignis, of which Mr. Gumbleton brings a specimen. The leaves are large, leathery, almost like those of Ficus elastica, and the flowers, borne on stout stems, are best described, perhaps, as urn-shaped. The ray florets are pure white, and those of the disc are yellow. The stem and receptacle are covered with a greenish white down.

ANEMONE FANNIIL,

the king of Anemones, is represented by two of its large, spreading creamy white flowers, with prominent centres, borne on the same stem. This Anemone is a coarse grower, reaching a height of 3 feet to 4 feet.

OTHER INTERESTING FLOWERS FROM MR. GUMBLETON.

The new and rare *Onosma Bourgaei*, with white but not showy flowers, is also included. This plant is quite new, having bloomed last year for the first time. There is the extremely rare *Arctotis decurrens*, a flower cut from the only plant in Europe, of a lovely rich orange colour. Everlastings are represented by *Helicbrysum Gulielmi* var. *Meyeri*, quite a new variety, and *H. Volkensi*. A showy and quite distinct flower is a spotted variety of the Ivy leaf *Pelargonium*, called *Leopard*. The semi-double flowers are rose coloured, heavily splashed with blood-red, quite a novelty. The double form of *Primula obconica*, flowering for the first time, and *Alyssum saxatile flore-pleno*, are new forms of old favourites. *Tricuspidaria dependens* (syn. *Crinodendron Hookeri*) has curious, red drooping flowers of obovate form. *Erigeron Roylei* is a beautiful flower, the ray florets being a charming violet-blue, and the disc is a dull yellow. Mr. Gumbleton brought a lovely gathering of

LEMOINE'S NEW HYBRID DEUTZIAS,

including many sorts that are evidently good garden plants to judge from their freedom of flowering. Of the best are *D. kalmæfforum*, *discolor floribunda*, *gracilis eximia*, *g. carminia*, *Lemoinei compacta* (white, of very compact habit of growth); *discolor grandiflora*, *gracilis rosea*, and *Lemoinei*, all profuse bloomers; the colours of the flowers are white and varying shades of rose. Of *Gazanias*, Mr. Gumbleton brought several beautiful kinds, notably *Gazania montana*, a rich yellow; *ochroleuca*, pale buff; *argelica*, creamy yellow; *rigens*, an old, yet a good one, an intensely rich glowing orange; and *Cyclope*, which has broad cream-coloured petals. Such are the most remarkable in this wonderful collection of Irish-grown flowers.

TULIPS FROM IRELAND.

Mr. Wm. Baylor Hartland, Cork, sends a few particularly choice Tulips. There is *La Merveille*, of rosy red and buff colouring and exquisitely scented, almost like a Primrose; *Ixioides*, tall bright yellow, with a black base to the interior of the petals; *Aximensis*, very dark red, tall and vigorous; *Mauriana*, bright red with yellow base; and *Marjoleti*, a very dainty Tulip, pale yellow splashed with red.

VIOLA BLANCHE.

I am sending for your table a few sprays of the rather rare *Sedum testaceum*, which is very beautiful, now growing at the foot of a south wall. I also send blooms of *Viola Blanche*, which is always one of the most admired varieties in our collection. It is a sturdy grower, and the flowers are very

large. The other variety enclosed is the result of Lark \times John Quarton, being raised here. Notice the peculiar kind of ruffle on the stalk adjoining the base of the flower.—ARTHUR R. GOODWIN.

[*Viola Blanche* is of a delicate heliotrope-blue. On the stalk just below the flowers, both of this variety and the hybrid, is a curious deeply cut frill. The hybrid flower is large, bold, and of a creamy white colour, and the plant is evidently a strong grower.]

MECONOPSIS CAMBRICA FL.-PL.

Some years ago I obtained a plant of *Meconopsis cambrica* fl.-pl. I was fortunate in being able to save a little seed; this was sown, and resulted in a few plants, some of which flowered when very small. From these and their progeny I have now a very fine collection of brilliant-flowered seedlings, varying in form, and of various shades of yellow and orange. Enclosed are a few blooms gathered from border and rock gardens, where they are very gay just now, and will continue for a considerable time in bloom. I may mention that among the seedlings I find single yellow and orange forms, some of them showing variation.—J. McWALTERS, Armagh.

[We must thank Mr. McWalters very much for a lovely box of flowers of this interesting *Meconopsis*: the flowers were large, perfectly double, and brilliant in colour, pure yellow, red, and rich orange; a delightful series.]

NEW BEDDING LOBELIA—MRS. CLIBRAN.

Messrs. Clibran, Oldfield Nurseries, Altrincham, send a plant of their new bedding *Lobelia* Mrs. Clibran. Messrs. Clibran write: "Without exception, this is the finest bedding *Lobelia* yet raised. We introduced it last season for the first time, and were much gratified with the appreciation and praise with which it was received, fully confirming the opinions we had previously formed of it. It is an ideal variety, possessing all the qualifications essential to a bedding *Lobelia* of the highest class. It is deep blue in colour, profuse in bloom, and compact in habit. These three essentials are combined in this variety in such a manner as to make it without an equal. Many bedding *Lobelias* now in commerce, after having been planted a little time, become of a straggling habit; with Mrs. Clibran this never occurs, the plant remains of a close and compact habit, and is covered with its deep blue flowers, possessing a small white eye, until the end of the season."

[We quite agree with Messrs. Clibran: this is an exquisite variety for colour, an intense gentian blue, with white centre. It is one of the bluest of blue flowers, and the plant, judging from the one sent to us, is dwarf, bushy, and very free-blooming.]

NARCISSUS EMPEROR.

Mr. Molyneux, The Gardens, Swanmore Park, Bishop's Waltham, sends "a few blooms of this *Narcissus* to show the result of a simple experiment of inducing some bulbs of this variety to flower much later than the ordinary batch, which have been over for the last three weeks. If we can prolong the season of such *Narcissus* as this by having them later as well as earlier something will be gained. It would be difficult to suggest a better all-round *Narcissus* than Emperor, the flower stalks being so stout that the blooms are easily arranged in vases for room decoration."

[Very fine flowers of one of the best of all Daffodils.]

AN OLD TULIP.

I am forwarding a few specimens of an old-fashioned Tulip which I hope may be found worthy of a place on the Editors' table. They are very small, but we consider them very pretty. In an old-time farmhouse garden in this village they have been growing for considerably more than fifty years, and as they have been allowed to run wild, so to speak, there are great masses of them, and hundreds of blooms are gathered every year. A

few bulbs which have been removed to fresh and richer soil have produced flowers much larger than the enclosed, but these may be sufficiently large to enable you to identify them. We shall be glad to know the name of the variety if possible.—WILLIAM CLAYTON, *Appleton Roebuck, Yorks.*

[The name of the Tulip sent by our correspondent is *Lac Van Rhyn*. It is a pretty flower of medium size; the petals are a good red, edged with white, and at the base of each one inside are blue markings forming an irregular ring.]

THE BIRD CHERRY.

Mr. Anthony Waterer, Knap Hill Nursery, Woking, sends cut specimens of *Prunus Padus*, the common form, and also "shoots from a very large tree growing here of an unnamed variety, but very much finer than the type. The tree was originally sent here by Mr. Moore of the Chelsea Botanic Gardens, I think under the name of *Prunus Padus Sieboldi*." Mr. Waterer also sends flowering shoots of the lovely *Pyrus Malus Schiedeckeri*. The variety of the Bird Cherry mentioned is far superior to the type, the racemes of flower are much finer, and the individual flowers are also larger.

APPLE BLOSSOM IN KENT.

As I write the Apple trees in Kentish orchards and plantations present a charming appearance, for everywhere the trees are laden with pink and white blossoms. What the result will be it is, of course, too early to say, as cold drying winds and sharp morning frosts have been the order since May came in, and from various districts come reports that Pears and stone fruits have suffered in consequence. With Apples, however, the promise is most fair, and there should be no scarcity of fruit this season. Last year the Apple crop in this country was, generally speaking, scanty, and growers are, therefore, all the more sanguine of a good return this season.

Perhaps at no other time of the year can one realise more fully what developments are taking place in Kentish fruit culture than when the trees are in blossom. At another season one might pass through the country by road or rail without observing signs of the fruit industry, unless one were interested enough to look for them, but flowers appeal to everyone, and the show that was provided a few weeks ago by the Cherries, Pears, and Plums is now being continued by the Apples. And the Kentish Apple grower has hit on the right method of establishing orchards. He does not, as a rule, stick trees into meadow and pasture ground and leave them to their own resources, but he plants on rich Hop land, that is kept under cultivation for a few years till the trees are established before laying the ground down to grass. By this method splendid orchards are established in a few years, and in this country there are many examples which refute the worn-out contention that English systems of fruit culture are all behind the times. I do not say that there is not plenty of room for the contention, but there are many bright exceptions nevertheless.

These young orchards that have been planted of late years, and are now objects of both beauty and interest, have a strong connexion with the future of British fruit culture. They have been recently established; the trees, which are rapidly coming to maturity, are mostly high class varieties, and when they reach their full bearing capacities Kentish Apples will be represented in the home markets in greater quantities than they have ever been before. And, further, this development is still going on. Thousands of trees leave the nurseries every year and are planted, as the Kentish farmer who has been hard pressed in many directions of late years has reasons for putting faith in fruit, in spite of seasons of glut, and hundreds of acres of young Apple trees now bright with blossom do not speak so much for what they will do this season as in the years that are to come. If anything could be more beautiful than a young Apple orchard at blossoming time it

is an old one in which the trees have reached their full proportions. Every branch is a spray of flowers, and in making a calculation of what the crop will be if all goes well one can easily realise the anxieties of the growers at this season. Amongst the old orchards one may see all sorts and conditions without travelling very far, good, bad, and indifferent; but there are many instances which prove that the planters of a past decade knew what they were about, and the present occupiers are reaping the reward of their foresight.

But the orchards are not the only places of blossom just now, for in the mixed fruit plantations half standard and bush Apple trees are laden with their flowers. Kentish growers of late years have learned the wisdom of planting dwarf trees, and by growing them on garden principles not only are good crops obtained, but the trees come quickly into bearing and realise early profits. In spite of the fact that growers do not have all their eggs in one basket, but cultivate a variety of fruits, still the Apple is of great importance, and both for the sake of producer and consumer it is to be hoped that the hopes of the abundant blossom will be realised in heavy crops.

One word more. Why do not people plant Apples as ornamental trees? I visited a garden the other day that was formed on the site of an Apple orchard. When arranging his garden, however, the owner did not destroy all the trees, but left a few here and there. Two of them stand on the lawn in front of the house, and I can imagine nothing more beautiful than these specimens when smothered with their pearly blossoms. There are many beautiful flowering trees worthy of being represented in pleasure gardens, but when they have all been considered I question whether we have anything that is attractive than the Apple.

G. H. HOLLINGSWORTH.

NOTES OF THE WEEK.

FORTHCOMING EVENTS.

June 3. — Meeting of the National Amateur Gardeners' Association.

June 5. — Meeting of the Linnean Society.

June 7. — Meeting of the Société Française d'Horticulture de Londres.

June 9. — Committee Meeting of the United Horticultural Benefit and Provident Society.

June 10. — Royal Horticultural Society's Committees meet, Drill Hall, Westminster; Woodbridge Horticultural Show; Cambridge Summer Show.

June 11. — York Gala and Floral Fête.

June 19. — Isle of Wight (Ryde) Rose Show; Jersey Rose Show; Meeting of the Linnean Society.

June 24. — Royal Horticultural Society's Rose conference, Holland House (two days); Lee and District Horticultural Show (two days); Oxford Commemoration Show.

Exhibition of Rhododendrons.—On Thursday next, June 5, Messrs. John Waterer and Sons, Limited, of the American Nurseries, Bagshot, Surrey, will open their Rhododendron exhibition in the delightful grounds of the Royal Botanic Society, Regent's Park. The Viennese White Band has been engaged for the afternoon, and a large attendance is expected, several thousands of invitations having been issued. The exhibition remains open throughout the month.

The Kew Guild.—Although the annual dinner of members of the Kew Guild has now become quite an institution, never, so it seems to us, have past and present Kewites met together with such goodwill and manifested such *esprit de corps* as on Tuesday last, when the annual dinner was held at the Holborn Restaurant. There was a large company present, numbering some 120 persons; included were many distinguished Kewites, both past and present, and of those who supported the Chairman (Mr. John Gilbert Baker, F.R.S., late keeper of the Herbarium) were the Director (Sir W. T. Thiselton-Dyer, K.C.M.G.), the Curator (Mr. W. Watson), Dr. D. H. Scott,

Dr. Stapf, Mr. George Nicholson, Mr. W. B. Latham, Mr. W. Goldring, Dr. Burrell, Mr. J. Hillier (Curator of Museums), Mr. W. J. Bean (Assistant Curator of the Royal Gardens), Mr. Baker, jun., Mr. W. W. Pettigrew, and many others; several ladies who have been students at Kew were also present. The Chairman, after having proposed the loyal toasts, gave the toast of the evening, "The Kew Guild." Mr. Baker first referred to the good fellowship that such a guild as this engendered, and the real pleasure that an annual meeting of this description gave to all who took part in it. Then, after reviewing some of the principal events that have happened during the past year, both in Kew and beyond it, and referring especially to the retirement of Mr. Nicholson and Mr. Jackson, Mr. Baker proceeded to impress upon the younger generation of Kewites the necessity of doing their work conscientiously and methodically. Mr. W. Goldring responded in a happy speech, and made the suggestion that one day a travelling scholarship should be provided from Kew, to enable those students who should prove themselves worthy of such favour to take advantage of those opportunities which intelligent travel alone can provide. In proposing the toast of the chairman, Sir W. T. Thiselton-Dyer referred to the manner in which the Kew Guild sustains good comradeship between its members, and he also eulogised the work of Mr. J. G. Baker. No man's teaching, said Sir William, has been carried to the ends of the earth as has that of Mr. Baker. The Director also made the striking statement that "there is no man who goes from Kew whose career is not known and watched with interest." Surely such words from the chief of the Royal Gardens should stimulate all Kewites, both past and present, to the best performance of their respective duties, that they may bring credit not only upon themselves but upon Kew, their *alma mater*.

Flowers in Park Lane, Hyde Park.

—Charming are the floral changes in this fashionable resort. But lately we were justly admiring the glowing masses of Tulips, Hyacinths, and other beautiful spring flowers, and now Mr. W. Browne, superintendent, has an entire change of floral subjects in a series of some twenty-one beds that have been filled with their second crop. Some of them, despite the present unnatural season, make a good show, and to these deserved attention may be accorded. A bed of crimson Stocks, with a groundwork of Viola Snowflake, looks well; as does also Solomon's Seal, with a carpet of the well-known Pansy Earl of Beaconsfield. White Marguerites, in a groundwork of mixed Pansies, present a charmingly informal appearance. A most effective and newish Viola—one of Messrs. Dobbie's introductions, who have done such good work in this beautiful class of flowers—is that named Shamrock, flowers large, of good substance, colour ivory-white, marbled round the edges with blue, and slightly rayed. Striking is a bed of mixed Emperor William Pansy, a good blue. Pansy Earl of Beaconsfield, with dots of Pyrethrum will present an attractive aspect when the latter are in flower. Very effective is a combination of *Cytisus praecox* and a dark Pansy called King of the Blacks, the yellow-brown making a beautiful harmony of colour with the black Pansies. Yellow Viola Campbell-Bannerman, a very showy variety, with dots of Canterbury Bells, will be beautiful a little later.—*Qto*.

Sale of Japanese dwarf trees.

—The demand for these quaint trees is still maintained. On the 23rd inst. Messrs. Knight, Frank, and Rutley had a sale by auction at their galleries in Conduit Street of a small consignment of typical trees received direct from Japan, and the following prices, amongst others, were realised: *Taxus Sieboldii* and two Maples, 33 inches high, £5; *Juniperus chinensis procumbens*, 120 years old, 21 inches high, £4 5s.; grafted *Thuya*, £3 7s. 6d.; *Thuya obtusa* var., 30 years old, 23 inches high, £3; *Pinus pentaphylla*, £3 15s.; *Azalea* var., 60 years old, £4 4s.

Narcissus maximus and other Daffodils.

—I am interested in your answer to C. Prentis re *Narcissus maximus*. It is the worst bloomer I have out of some seventy varieties. I

should much like to know whether it is ever found to succeed in grass, as I propose trying it. N. Macleanii has flowered well in the rock garden this year, in not a very sunny place, and best in poorish stony ground. If you could also tell me the most likely place to grow N. triandrus albus (Angels' Tears) I should be obliged. It generally dwindles away here after a year or two. This year I tried a few bulbs in an imitation moraine made of refuse from quarry of blue stone, and they seem to be healthy so far and some have flowered. I understand it grows in slaty rocks when at home.—S. T., *Haverthwaite*.

Schizanthuses at Totteridge Park.

—A delightful effect is made by these plants in the long conservatory at Totteridge Park just now. The length of this structure is admirably adapted to display these plants effectively, and I have seen no more pleasing floral picture during the present spring season. Mr. J. Brookes, the able gardener, has secured a splendid strain, the colours and markings being very varied, and the quality of the flowers all that one could desire. Seed is sown as early as July, and no artificial heat is used, at least for some months; cold frames and, as the colder weather ensues, a cool airy greenhouse are used. In the early days of the new year the plants are finally potted into 6-inch pots, in which they appear to succeed remarkably well. It is surprising that *Schizanthuses* are not more used for greenhouse decoration.—D. B. C.

The London Dahlia Union.

—I do not think Mr. Needs, whom all Dahlia men so warmly esteem, fully justifies the course taken by various members of the committee of the National Dahlia Society in thus constituting a further Dahlia organisation under the above title. I should have thought that loyalty to the original and National Society would have interposed in such a case and kept them outside of such action. Why could not those who wanted a second London Dahlia show in September have instituted it under the auspices of the parent or National Society? As it is, the belief is general that some jealousy of the National is at the bottom of the business. Certainly the National executive as such never were approached on the subject. It is specially objectionable that another special Dahlia organisation than the National, which includes all the best Dahlia experts in the kingdom, should be awarding certificates to new varieties.—A. DEAN.

Iris Germanica by riverside.

—Later than usual in flowering, on account of the backward season, is a pretty and well-established colony of this charming old favourite near the Thames Eyot at Chiswick, and facing the water. Although detached from the pleasant garden proper of Mr. John I. Thornycroft (Eyot Villa), the colony referred to belongs to this gentleman. The deep green of the grass makes a beautiful toning down and highly acceptable contrast to the purplish blue standard and purple falls of the Irises.—*Qto*.

Late Tulips at Long Ditton.

—The late Tulips are now very beautiful in the nurseries of Messrs. Barr and Sons, Long Ditton. Brilliant masses of colour are made by *T. gesneriana*, *macrosepala*, and many other beautiful kinds, and the "Darwin" forms are superb. All who care for this glorious race of late flowering bulbs should visit Long Ditton as soon as possible.

The white Agapanthus.—A note from New Zealand.

—I see that there has been some correspondence in THE GARDEN lately about the white *Agapanthus*, and it is suggested that there may be two distinct varieties of that plant. It may be so, but that there is a blue and a white form of the same variety I think the following will show:—Some years ago I raised and planted out about fifty seedlings of the white variety. They all produced blue flowers. I then sowed some seed of these blue-flowered seedlings, and planted out about the same number of plants, the result being that more than half of them were white flowered. The *Agapanthus* flowers here the third year from seed sown in the open ground, and grows and flowers freely anywhere, but best in a moist place without cultivation.—D. R. MACQUEEN, *Auckland, New Zealand*.

Aubrietias as rock plants.—One of the most beautiful effects I have seen produced by a big mass of Aubrietia Campbelli was but recently at the charming place Cricket St. Thomas, near Chard, now the residence of H. Fry, Esq. The rockwork, one of Pulham's construction, is somewhat vertical, and scores of Aubrietias have been planted on the central portion. These have made strong growth, and, in bloom, emit a curious bluish sheen that was both pleasing and beautiful; but I would like to see on any pretentious rockwork not only Aubrietias freely employed, for they are some of the very best rock or stone covering plants, but also more variety. What pretty things there are in commerce now. The pale pink Bridesmaid, having quite large flowers, is charming. Quite the converse in colour is Dr. Mules, for it is of a rich bluish purple and a very attractive variety. Another rich coloured form is Fire King, the flowers being of deeper hue than those of the more widely grown Leichtlini. A violacea has a rich violet tint; these with A. Campbelli make a first-rate selection, and are all good growers.—D.

Magnolias at Versailles.—Why are these so neglected in English gardens? M. conspicua, M. soulangeana, and M. stellata are some of the most beautiful flowering trees we have, and are all easy to grow, yet one rarely sees them in this country, and a nurseryman here assures me he cannot get a sale for them. I spent a month in Paris, trying to see all gardens in the neighbourhood (hence I missed THE GARDEN for April 5), and the Magnolias were a glorious sight, especially in the gardens of the Petit Trianon at Versailles.—H. R. DUGMORE.

Anemone hortensis in grass.—Anemone stellata, now called A. hortensis, is a wild flower that deserves a little careful aid towards establishing itself in the wild garden. Though English gardeners can hardly hope to grow it in the open, yet in the grass under trees, where the foliage keeps off the summer rains and yet allows plenty of sun in winter and spring, it should be planted, preferably as an unflowered seedling, for these are much the hardiest plants. The important point is to preserve the first broad leaves, for if they are cut off by the winter

the corns will suffer another season. If that is done and the autumn rains do not start the corns too early all will be well. Every shade of colour from white to crimson is found wild, but a soft lilac is the most common, and to many the most delightful. It loves a calcareous soil.—E. H. WOODALL.

Tufty Pansy Mrs. E. A. Cade.—This is one of the newer tufted Pansies (Violas) of which much should be heard. The yellow colouring is rich and bright, and being tinted in the centre with an orange colour and having a neat rayless eye, the effect of a mass is very striking. The habit is dwarf and compact, and the constitution robust. The plant is one of the first to bloom with me.—D. B. C.

The mole cricket.—In THE GARDEN for April 5 I see "E. B. C." seeks information about the mole cricket. I can give him my experience, as thirty years ago when I first bought a property here on peat and Bagsbot sands I was much troubled with them. Now they are well nigh extinct. Draining and frequent digging are, I think, the best cure. They will not live in dry ground. I once remember carting a dozen or more loads of peat to a high and dry part of my garden from a moist part, and found I had thus imported any amount of mole crickets, but in three months not one remained up there. In the moister parts my men used to kill hundreds every time they dug

the ground, and now but few, if any, remain. If you look over the ground early in the morning you will see airy holes they have made in the night, and you can generally follow these up with a spade and kill the evil beast before he has gone far, and at night with a lantern you may even kill them above ground.—H. R. DUGMORE, Parkstone.

Gladioli failing.—I always grow Gladioli of all sections in the open ground, planted deep and never disturbed: generally they multiply and make fine clumps, are very rarely damaged by frost, but for two years they have been going off, and on digging the ground I find it full of a fungus consisting of very fine white threads. I presume this is the cause of their death, but should be glad to know if it is a common source of loss, and whether any treatment of the soil would effectually eradicate this fungus, so that I might safely replant Gladioli.—H. R. DUGMORE.

White Agapanthus.—The letter of Mr. Peter Barr in THE GARDEN of May 10 seems to prove conclusively that there are two white Agapanthus, one being evergreen and originally a sport from the A. umbellatus, and the other being, as mine is, absolutely deciduous under every treatment, whether indoors or out, wet or dry, cold or warm, and necessarily a separate species, or possibly a hybrid. This would account for some of the

of trees and shrubs on each side of the walk in their freshest spring dress! Noble Magnolias in flower attract us, as do the great Lilac bushes at present in beauty. In the well and attractively filled borders striking objects are the bold spikes of rich purple flowers and massive leathery foliage of Megasea cordifolia purpurea, one of the best of this genus. To the late season we are indebted for still beholding the Tulips, which, even in their dying floral glory, are very brilliant. The large golden yellow flowers of Doronicums give fine and enduring patches of colour, and in the dells hereabouts we get charming glimpses of beautiful spring flowers in rich variety.—Quo.

Chrysanthemums at Totteridge Park.—It may appear early to make notes about Chrysanthemum collections, but, considering the abnormal character of the spring season, they may not be out of place. From this establishment some of our best Chrysanthemums have come in the past, and the plants are very promising this year. They are now well established in 6-inch pots, with strong but not coarse growth. Mr. Brooks recognises the value of stopping and timing his plants, and for this reason many examples of an early stopping or pinching out of the growths were seen. This excellent grower, like many others, recognises that a first crown bud selection



ANEMONE STELLATA IN THE GRASS.

contradictory descriptions lately given by your different correspondents in THE GARDEN.—H. R. DUGMORE, The Mount, Parkstone.

Strawberry St. Antoine.—This little-known early Strawberry has shown itself of decided merit this spring on the Riviera. Can anyone tell me how it answers under glass in England? It is dwarf-growing, and the flower-stalks are so short that the leaves help to protect the precocious blossoms. The flower is good when grown out of doors, and though the clusters of fruit are small the plants can be planted much closer in the rows than can be done with later varieties. The special value of this variety is that the runners give some good dishes of fine fruit in autumn, and the same plants bear still more freely in April, after which they are pulled up. As yet no other Strawberry has proved as perpetual, or of equal size and flavour so early in spring. Perhaps it may be an acquisition for pot work in English gardens.—E. H. WOODALL.

Weldenia candida.—We are sorry a mistake occurred in "W. W.'s" note last week. Our correspondent wrote Weldenia, which, of course, is correct, but through a blunder it appeared in the paper as Wildenia.

Flower Walk, Kensington Gardens.—How enjoyable just now is a saunter through this quarter, with its choice assortment

of several of our best varieties is of little value for exhibition purposes, this kind of bud more often developing large and coarse flowers of poor colour. Many of these plants if left to develop the second crown bud from a natural break would perform this function far too late for the resulting blooms to be used for the November shows. For this reason Mr. Brooks, like many other good growers, so stops his plants that the development of the second crown buds is hastened. By these means the second crown buds are ready at the proper time, and as it is generally recognised that second crown buds give neater blooms and of better colour, this system has much to commend it. Of course many varieties develop the second crown buds at a suitable time without any stopping. We were pleased to see the Vivian Morel family of the Chrysanthemum growing far more freely than has been the general experience during recent years. Excellent examples of Mrs. C. Harman Payne and its sports were noticed, also those of Mrs. Barklay, which promises well. The collection contains the best of the newer introductions, as well as the older standard sorts. The northerly winds had been giving some trouble just recently, and this, together with severe frosts, almost every morning for some time, made the walled-in garden an inestimable boon.—D. B. C.

Prune growing in California.—California is the home of the Prune. There you can trace it to its native lair, so to speak. The mountainous country suits it best, the rains washing down rich loose soil in which the Prune revels. It is grafted on one year old Peach or Apricot stocks. The plants begin to bear fruit when about three years old, blooming in March, most of the fruit ripening in August. They are allowed to fall off the tree, are then picked up, boxed, and sent to be graded at the packing house. They are then treated to a bath of hot lye to crack the skins, dipped in cold water, and, finally, put out in trays in the sun to dry. There is no likelihood of rain at that season. After four or five days they are stacked for a little longer. They are afterwards sorted into ten different sizes, varying from twenty to eighty to a pound. After being heated and then boxed they are shipped to various parts. Two pounds and a half of green Prunes make 1lb. of cured Prunes. There are 62,000 acres of Prune trees in California, and last year they bore nearly 350,000,000lb. of fruit. Usually 100 trees are planted to the acre, and they bear as many as 800lb. each. Six thousand freight trains could be filled with last year's dried produce, or a train 45 miles long. The growers have an association—the California Cured Fruit Association—and sell their fruit together. The fruit is carefully inspected by the company's inspectors. Properly cooked the Prune requires no sugar. Careful, slow cooking, covering the fruits with water, brings out the latent sweetness, and the fruit is entirely different from the usual dessert offered. Prunes are also used in cake, candy, and bread, and are always acceptable.—C. MACQUARIE, *Chicago*.

Railroad horticulture.—Three great lines running out of Chicago now own their own greenhouses and employ their own florists and landscape artists. They are supplying their stations *en route* with plants and cut flowers, and beautifying the road beyond belief. One road uses 1,000 Carnation blooms daily the year round for its dining-cars. Another presents a small bouquet daily to every lady passenger. Constant care is exercised, as the Philistine is constantly making inroads, breaking bushes and tearing up perennials. The grass and trees are as religiously attended to, the whole attaining a perfection hardly to be expected under the adverse circumstances. I do not know of any English railroad doing this on a large scale. It might be emulated with advantage.—C. MACQUARIE, *Chicago*.

Tufted Pansy Cottage Maid.—Why this charming tufted Pansy (*Viola*) is not more grown it is difficult to conceive. It belongs to the fancy type, and reminds one of such sorts as Countess of Kintore and Mrs. C. F. Gordon (syn. Cissy Mellows), the former variety being known to most gardeners. In the variety under notice, however, the flowers are infinitely superior to those of the older Countess of Kintore, the form is better, and the colour is alternately purplish violet and lavender. There is no comparison in the respective habits of growth, that of the variety under notice being dwarf and compact, and it blooms with great profusion. Notwithstanding the severe frosts of late the plants have been making a brave show.—D. B. C.

Calypso borealis.—It is seldom that an opportunity occurs of seeing this rare little Orchid of Northern climes, which is now flowering in the Alpine house at Kew. It is one of those minute plants so apt to be lost when entrusted to the open ground, even in the most carefully managed rock garden, yet so exquisite in its delicate colouring and quaint form that it is a red-letter day in a gardener's diary when he first makes its acquaintance. A single leaf, with one nodding pink flower, somewhat pouched and slipper-shaped, with pencilling of deeper shade and crested with a touch of gold, such is the individual plant, which might well be covered by a moderate-sized specimen glass, but grown in a group and brought close to the eye, as may easily be done in a cold house, it cannot fail to delight and interest a plant lover.

Ranunculus cortusæfolius.—This handsome Buttercup from Teneriffe is now in

flower at Kew, and is a plant to be noted for the cold greenhouse. Unfortunately, it is not quite hardy enough for ordinary gardens, otherwise it would be more familiar than it is, but it might safely be tried in sheltered positions in Devon and Cornwall, and would probably grow with more vigour in the open air than under the restricted conditions of pot culture. In its best form it is a noble plant, with large kidney-shaped root leaves and tall branching leafy stems, 3 feet or more in height, crowned with shining Buttercup flowers of great size and rich colour. The conditions under which it may be seen planted out in the borders of the Himalayan house seem to be exactly suited to its wants.

The Custard Marrows as ornamental plants.—The Custard Marrow is not so much grown as the larger kinds, and this is readily accounted for, as they do not sell so well, and I find if the fruits are left too long on the plants the seeds mature quickly and the flesh is dry and lacks flavour. On the other hand, no matter what kind of Marrow is grown the fruits should be cut in a young state and not be allowed to form seeds—at least, not allowed to perfect them. Although it may be thought somewhat wasteful to cut the fruits when so small it is not really so, as the plants are better able to produce them in quantity. The Custard varieties, though small, are of delicious flavour, and are produced in abundance; they might with advantage be more grown in private gardens, but they must, to be of the best quality, be cut in a young state. The plants are of a trailing habit of growth. This variety grows well on fences or may be used to cover a low wall, proving most ornamental when grown thus. The plants also fruit very freely if given a sunny aspect and plenty of moisture and food.—G. W.

Begonia glaucophylla.—About a year ago a photograph of a basket of this Brazilian Begonia in the Mexican house at Kew was published in THE GARDEN, together with the dimensions of the plant. It may be of interest to give its dimensions at the present time. The extreme length from tip to base is now 13 feet, the width 4 feet. The foliage is luxuriant and flowers are very much in evidence, though the rose colour of the young leaves somewhat detracts from their effect owing to a great similarity in colour. It is now three years since the cuttings which were placed in the above basket were rooted, the young plants being at that time about 6 inches high. The basket is an ordinary wire one 18 inches across and 9 inches deep. Rich soil was used in the first place, and the young plants were trained to cover the basket. By the end of the first year the wirework was hidden and the compost was a mass of roots. From that time the plant has been heavily fed, various kinds of manure being used. The house has a minimum winter temperature of 50°, and throughout spring and summer is kept fairly moist.

Rhododendron Vaseyi.—This is one of the prettiest and most distinct of the rarer deciduous Rhododendrons, or Azaleas as they are more popularly called. According to Mr. C. S. Sargent in "The Garden and Forest," 1888, page 376, it was discovered in 1878 by Mr. George R. Vasey near Webster, in Jackson County, North Carolina, growing in great luxuriance along the low banks of a small stream, and was also found several years later by Mr. S. T. Kelsey on Grandfather Mountain in North Carolina, about two or three miles from Louisville, at an elevation of from 4,500 feet to 5,000 feet. Although it is described as a slender branched tall-growing shrub 15 feet to 18 feet high, it is rarely seen here more than 2 feet or 3 feet in height, though it will doubtless grow to much larger dimensions under favourable conditions. The flowers are white, suffused with pink, the upper lobes being marked at the base with dark spots. The flowering period is May, the flowers appearing about the same time as those of *R. rhombicum* and *R. sinense*. In addition to the type there is a variety with pure white flowers which is also worthy of attention.—W. DALLIMORE.

Erica australis.—It is to be regretted that this pretty early-flowering species is not more frequently met with, for it is one of the richest

coloured of the numerous Heaths suitable for the outdoor garden. It is a native of Portugal, and, although it has been known for many years, it is still very difficult to obtain in this country, and it is seldom to be seen. At Kew a number of plants are to be seen, the finest of which is in full flower in the Erica collection. It is of loose, straggling habit, grows several feet high, and is clothed with small dark green leaves. The flowers are borne very freely from near the apices of the shoots, are rosy red in colour, and larger than those of most hardy species. When planting a sheltered cosy nook should be selected, as, more particularly when young, it is a little tender. Winters like those experienced during the last few years do not appear to affect it, but it is always advisable on the appearance of frost to sprinkle a little hay or dry leaves lightly over the plants as a slight protection. As with the other species a light, peaty soil is the most suitable. Propagation may be effected by means of seeds or cuttings.—W. DALLIMORE.

Seed of *Lilium giganteum*.—I should like to know the best way to treat this. Should it be soaked before being sown? Also, must it be sown in any particular soil, and in heat or a cold frame? Does it take a very long time in germinating?—E. LLOYD EDWARDS, *near Llangollen*.

Parrot Tulips.—When at Long Ditton a few days since I could but note the unusual stiffness of the stems of Parrot Tulips. In explanation of that Mr. W. Barr said that it was entirely due to deep planting. He now had all his "Parrots" planted 6 inches deep, and as seen in this case the stems become so stiff that the fine flowers are held erect, as is the case with most other varieties. It has been one of the objections to the pretty Parrot section that their flowers were not erect. It is now evident that the cause is a removable one, and we may have our flowers as upright as we wish henceforth if we will but plant deep enough. May or late-flowering Tulips are this year at Long Ditton a superb show. They are there in tens of thousands, literally covering acres of ground, and of every conceivable variety and colour. Those whose intimacy with these flowers is chiefly derived from seeing collections in bunches at the Drill Hall or shows can have poor conception of the wondrous beauty found in large beds of them when seen on a sunny day at Long Ditton.—A. D.

Gardening books.—"N. B.'s" selection of books on gardening is more plentiful in number than comprehensive or complete. Too many of the books treat of sentimental horticulture or so called decorative gardening. More practical books are needed for anyone who would be a student of practical horticulture, and amongst those unnamed is that fine fruit book "The Fruit Grower's Guide" (J. Wright), the most complete book on the subject ever issued. To that should be added Mr. A. F. Barron's "Book on the Vine," a most useful treatise, and probably on Grapes the most authoritative. Also should be included Mr. E. Beckett's vegetable book, and M. Vilmorin's "The Vegetable Garden," and if still in print C. Shaw's admirable book on "Market Gardening." Many others might be mentioned as right up to date in horticultural practice.—D.

Daphne collina.—Though introduced from Italy a century and a half ago this Daphne is very rarely seen in gardens, and even when met with it is by no means invariably in a thriving state, yet there are exceptions, and when in good condition it is really a delightful little shrub. Numerous examples are to be seen in Brockwell Park, where it seems quite at home. The best of them form dense bushes about 3 feet high and as much through, which are thickly clothed with small deep green leaves. The flowers are borne in clusters on the points of nearly every shoot, and the value of the plant is enhanced by the fact that they are produced more or less throughout the first six months of the year. They are of a kind of purplish pink, and when seen in a mass, as in the case of some of the plants in Brockwell Park early in May, they are very pleasing. Several of the Daphnes are well worth more attention than is usually bestowed upon them, as in the case of some of them a little trouble is well repaid.—T.

TREES AND SHRUBS FOR ENGLISH GARDENS.

(Continued from page 325.)

HARDY EVERGREENS.

THE indebtedness of British gardens to the floras of other countries is in no instance more strongly shown than by the abundance of evergreens now at the service of the planter. The only native evergreen trees of Britain are the Yew, the Holly, the Scotch Pine, and the Box. In Ireland the *Arbutus* (*A. Unedo*) that is found at the Lakes of Killarney, and attains the dimensions of a small tree, makes an addition. The number of native shrubs that have persistent foliage is, of course, considerable, but they belong chiefly to the Heath family and its allies, and are small in leaf and dwarf in stature. On the whole, then, the evergreens of these islands do not make a very imposing group, although under cultivation some of them, such as the Yew and Holly, have given rise to so many striking varieties that they still play an important part in gardens, in spite of the many foreign introductions. Whatever proportion, however, evergreens may bear to deciduous vegetation in the flora of Britain, there is no doubt that the climate of the British Isles, especially of the southern and western parts, is exceptionally favourable to their welfare. One of the most striking differences between our gardens and those of the Continent, where the average temperature is equal to or higher than that of these islands, is to be noted in the greater wealth and variety of evergreen trees and shrubs that we possess. This group of plants is, so far as cool temperate latitudes are concerned, undoubtedly best adapted to insular and maritime climates. Their abundance in Japan and New Zealand proves that. As a general rule, however, the evergreen portion of the vegetable kingdom increases in numbers and in size as we get nearer the equator. A similar increase is observable also in the size of the individual leaf. The only evergreens of cold latitudes that equal those of tropical regions in stature and bulk are the Pines, Firs, and their allies, and in these the thin, needle-shaped leaves present a minimum of surface to atmospheric influences.

MOST SUITABLE CONDITIONS FOR EVERGREENS.

In regard to the conditions which we find best for evergreens, both from experience in cultivating them and from a study of their distribution over the globe, the two most important are certainly an equable climate—that is, one free from extremes both of cold and heat, and an even, regular supply of moisture both in the atmosphere and at the root. In other words, evergreens will thrive in a district where the temperature is comparatively low and even much better than in one where the average heat is considerably higher, but subject to a higher maximum and a lower minimum.

We can see how much a maritime climate favours the cultivation of evergreens as compared with a climate that is merely warm without being particularly moist, by a comparison of the localities in which the tenderer evergreens thrive best in Britain. As a general rule, of course, the number of evergreen species that can be cultivated out of doors increases as we approach the south and the west. Thus the most favourable of all the districts in the British Isles are Cornwall and the south-western counties of Ireland. But proving how little mere latitude has to do with the matter, it may be pointed out that plants

—especially those from the Himalaya and New Zealand—can be grown in the counties of Argyll and Inverness and other parts of the west of Scotland, which we, near London, are quite unable to grow without glass protection. These matters, although at first they may appear to be merely interesting, are something more than that. Properly interpreted, they help to indicate the positions in our gardens (wherever these may be situated) where evergreens are likely to thrive best.

The first requisite in choosing a place for the choicer and tenderer evergreens is a situation protected from the dry winds that come from north and east. One of the most striking examples I have met with is the Duchess' Garden at Belvoir Castle. Belvoir is in the Eastern Midlands, a district where the average temperature is certainly not high, and where during my stay there the thermometer fell on more than one occasion to zero (Fahr.), yet in this particular spot (known as the Duchess' Garden) there were fine specimens of Himalayan *Rhododendrons*—one of *R. Falconeri* being especially noteworthy for the way it grew and flowered—an *Azara microphylla* 16 feet high, and other similar examples. The explanation of these successes I believe is entirely in the situation and exposure of the garden. It was formed on the slope of a rather steep hill, and is in the shape of an amphitheatre opening fully to the south. The bitter-north-east wind loses much of its sting before it reaches the plants in this garden. In most gardens it is, of course, impossible to obtain sites so favourable as this. One has to make the best of what exists. But at the same time it shows the desirability—often the necessity—of choosing positions for the tenderer evergreens in which this need of shelter is satisfactorily met. Bamboos, Camellias, many *Rhododendrons*, and *Eleagnus* all afford striking examples of the value of a shelter-belt on the north and east sides.

Evergreens require a continuous and even supply of moisture at the roots more than deciduous trees and shrubs. They do not to the same extent reduce the transpiring surface by shedding the whole or a portion of their leaves early when tried by long drought. Nor are they so well adapted by nature to withstand long droughty periods, which with deciduous things often merely ripen the wood better and increase the display of blossom. All this goes to show that the evergreens should have a soil deep and good enough to provide cool and moist conditions at the root. W. J. BEAN.

(To be continued.)

AMERICAN NOTES.

MORE WILD VIOLETS OF VIRGINIA.

SOME of the readers of THE GARDEN may remember an article that appeared last August on a few of the Violets found in the two Virginias. Those described were *Viola pedata*, *V. cucullata*, *V. sagittata*, *V. blanda*, *V. tenella*, *V. canadensis*, and *V. villosa*. But this is not by any means an exhaustive list of the many species of this interesting family that can be found in our woods and on our cliffs or that are naturalised in the grove here at Rose Brake.

We prize the English single Violets, both white and purple, more than any of our native species, however, both because they are earlier than ours, and because they are so delightfully fragrant, while ours are, with one exception,

scentless. The perfume of *Viola blanda* is so faint that some people deny it the possession of this crowning charm. The fragile-looking, single white English Violet grows wild in our shady grove, and spreads quite freely, even in poor, uncultivated soil. It is perfectly hardy here, and has been naturalised at Rose Brake for at least thirty years. It blooms with the *Forsythia*. The ground under some old *Forsythia* bushes is carpeted with this gentle and charming flower. In other places the purple English Violet has formed vigorous colonies. This species, *Viola odorata*, is described in Britton and Brown's Illustrated Flora of the Northern States and Canada, because, though it came originally from England, it has escaped from gardens, and is now naturalised in many places, especially in the Virginias and other long-settled parts of America. Outdoor Violets begin to flower here about the first week in April or the last of March, according to the season, but the native sorts are not much in evidence until May, which is our great Violet month. One of the earliest of all is *Viola palmata*, which is found in the dry soil of wooded uplands. Its leaves are palmate and its flowers are bright blue-violet in colour. Some older botanists called this a variety of *V. cucullata*, but it is now considered distinct enough to be classed as a separate species. I do not see much resemblance in this Violet to *V. cucullata*. The flowers are usually smaller, and have not the variety of colouring that distinguishes those of that species. The whole appearance of the plant is distinct. It is pubescent. *V. cucullata* is glabrous. The leaves vary very much in size and shape. Sometimes they have three lanceolate lobes; sometimes none at all; sometimes they are cordate, with crenate-dentate margins. No two leaves are cut after the same pattern, a peculiarity which makes this little plant interesting. It is very pretty when it is covered with its charming flowers, which are borne in great profusion. *Viola palmata* is a good subject for the rock garden in a situation partially shaded. It does not need much moisture. Early in May we find *Viola rotundifolia*, the round-leaved Violet, a species which is a true mountain lover, climbing to a considerable height, and clinging to the face of rocky cliffs and precipitous and inaccessible places. The slender stems, 4 inches in height, bear aloft the pale yellow blossoms, which are about two-thirds the size of those of *Viola cucullata*, so well known in England that I use it for a standard of measurement. This little flower you see does not hide beneath its foliage in true Violet fashion. On the contrary, it is the pretty, rounded, and unlobed leaves that seem to wish to pass unnoticed. They hug the ground on their short stalks, making the plant inconspicuous when out of bloom. I follow the botany in calling the flowers of this Violet yellow. The form of it that we have naturalised here has cream-coloured blossoms. The foliage is a delicate light green.

So singular is the appearance of *Viola lanceolata*, the lance-leaved Violet, that when it is out of bloom it would take an experienced eye to perceive that it is a Violet at all. The narrow leaves are sometimes 5 inches in length, and are slightly crenate. The sepals, too, and the petals to some extent partake of the elongated appearance of the plant. These petals are white and beardless, the lower and lateral ones striped with violet. A slight fragrance is claimed for this species.

Viola hastata is the halberd-leaved Violet, one of our not uncommon yellow Violets, often found side by side with *Viola rotundifolia* on hilly and rocky slopes. The simple erect stem

of this *Viola* is sometimes a foot in height, with the stem-leaves high in the air. Sometimes these halberd-shaped leaves are truncate at the base; sometimes the basal leaves are cordate. This species has small yellow flowers, which have the lateral petals bearded.

Viola pubescens, the hairy yellow Violet, is easily distinguished from *Viola hastata* by the pubescence of the entire plant, while the latter is quite smooth. It is also distinguished by the reniform shape of the leaves, which are much wider than long. The stout, erect, usually solitary stem is crowned with a bright yellow nodding flower, the veins of which are purple. This is one of our prettiest yellow Violets.

Viola scabriuscula, the smoothish yellow Violet, has lovely blossoms of a distinct lemon yellow, very prettily veined with dark maroon, almost black. This is now, April 22, in bloom on a bank at Rose Brake. It has sometimes been considered a variety of *Viola pubescens*, from which, however, it differs very much in shape and size of leaves and in general appearance. It is smooth, or only slightly pubescent, and is a tall-growing species, sometimes 15 inches in height. The heart-shaped leaves are rather coarsely toothed, and of a medium shade of green. It is usually found in marshy places and in wet woods, but is sometimes



A HOUSE OF CATTLEYAS AT CAMBRIDGE LODGE, CAMBERWELL.

met with at an elevation of 4,000 feet. *Viola striata* is the pale or striped Violet. The light purple cream, or almost white blossoms of this species are striped and veined with deep purple, and the leaves are cordate, with crenate margins. The lateral petals of this species are bearded.

All of these Violets are pretty and interesting in a large collection. Here we use some of them to naturalise under the trees and among the rocks of the grove. We do not cultivate any of them in garden beds or borders, but like to see the ground carpeted with them here and there in the wilder parts of the place. None that we have tried, except *Viola pedata*, has been found very hard to establish.

Besides these there is now in bloom here, in what we call Violet Hollow, a rare form of *Viola ovata*, which is a species of Violet not often seen in this neighbourhood. The form of it that my eldest daughter found when on a visit to some friends who live ten miles from here grew on a shady and dry bank at the edge of a wood of Pine trees. We have established it here, and prize it for the

unusual colouring of its flowers, which have slender petals of pinkish mauve, unlike those of any other Violet known to me, though Meehan Brothers, of Germantown, Pennsylvania, advertise a pink Violet which I have not seen. The leaves of this variety of *Viola ovata* are not over an inch in length and are oval, with cordate base. In the type the blades are sometimes $3\frac{1}{2}$ inches in length.

DANSKE DANDRIDGE.
Shepherdstown, West Virginia, U.S.A.

ORCHIDS IN LONDON.

THE smoky atmosphere of London and its suburbs is often abused by those who endeavour to practise gardening within its pale, yet that this abuse is not always justified is occasionally made apparent by excellent examples of widely different phases of city plant culture, which are from time to time brought to our notice. It was but the spring of last year that we illustrated and described a rock garden under the shadow of St. Paul's, wherein certain plants unmistakably flourish, and it is now our pleasant privilege to chronicle the fact that one of the best collections of Orchids in the country is within a very few miles of Charing Cross, *i.e.*, at Camberwell, for in the gardens of Cambridge Lodge, Flodden Road, the residence of R. I. Measures, Esq., these aristocrats of the horticultural world are extensively and successfully cultivated. It would be folly to say that the plants are not occasionally somewhat the worse after a persistent London fog, although the plants do not suffer to nearly the same extent as the flowers and the flower buds. It is pitiable to see the effect that a bad London fog will sometimes have upon the expanding Orchid buds, more particularly those of Cattleyas. They are often completely spoiled; yet, notwithstanding its drawbacks, the London atmosphere is quite capable of producing Orchids that are fit to rank with any in the land, and often are those from Camberwell exhibited at the Royal Horticultural Society's meetings, held in the Drill Hall, Westminster, and almost as often do these London-grown



CYPRIPEDIUM OLEUS : ONE OF MR. MEASURES' HYBRID ORCHIDS.

Orchids obtain a silver or other medal as a testimony to their excellence.

Mr. Measures is well known as an Orchid enthusiast, and his collection contains many rare and valuable plants, a number of which have been raised in the Orchid houses at Camberwell. The *Cypripedium* that we are able to illustrate—*C. Olenus*—is one of these. The parents were *C. bellatulum* and *C. ciliolare*; the dorsal sepal and the petals are broad, and of a beautiful rose colour, dotted with purple-black. It is altogether a charming and dainty flower. Other Ladies' Slippers in this London collection that one might specially note are *C. callosum* Sanderae, *C. venustum* measuresianum, *C. insigne* Sanderae, *C. insigne* Harefield Hall variety, *C. bellatulum* album, and *C. barbatolawrenceanum*, all of which rank amongst the noblest in the world of Orchids.

Undoubtedly one of the features of Mr. Measures' Orchid houses is the representative lot of *Masdevallias*; they form one of the very best collections in England of these curious, brilliant, and interesting Orchids. One notices *M. Lowi*, of great rarity, *M. bella*, *M. harryana*, *M. veitchiana*, and numerous others. Most delicately beautiful is the tiny *Pleurothallis ornata*, from whose flowers depend glistening silvery filaments so fragile as to be almost constantly moving. *Epiphronitis Veitchi*, the bi-generic hybrid between *Epidendrum radicans* and *Sophronitis grandiflora* is bearing its showy flowers, and the *Cattleyas Schroderae*, *Mendelii*, and the first flowers of *C. Mossiae*, as well as *Vandas*, *Phalaenopsis*, and *Odontoglossums* in variety, prove of much interest in the respective houses devoted to them.

Perhaps even more interesting still than the Orchids in flower are the hundreds, nay, thousands, of seedlings in various stages of growth. Here one sees seed that has just been sown, or rather one sees *where* it has been sown, for it is so very minute; there a number of tiny globules prove to the expert that germination has taken place; and further on it would not be difficult for the most inexperienced to recognise the developing seedlings. The care that must be expended upon these numerous plantlets, any one of which may prove to be something entirely new in the world of Orchids, is almost beyond belief, for even with the skilled attention that the wide experience of Mr. Smith, Mr. Measures' Orchid grower, enables him to give to them, a certain percentage invariably disappears. And the patience that is necessary before the results of one's labours are known! Even the seedling *Cypripediums*, which apparently develop the most quickly, rarely flower before three or four years have elapsed, and the majority of Orchids take very much longer. With such an example of successful city gardening before them, dwellers within the radius of London smoke, and particularly those who delight in the culture of Orchids, should take heart and endeavour to emulate the success achieved by Mr. Measures in his Camberwell garden.

H. H. T.

ASSOCIATION FROM A GARDEN POINT OF VIEW.

EVERY situation of life is made they say by what we ourselves bring to it, which is only another way of saying that no two people ever see things with the same eyes. This is never more true than in the garden; a thousand subtleties go to the making or marring of our enjoyment in it. To the observation of every flower, whether of field, greenhouse, or garden, we bring minds diverse as the poles and sets

of associations that are as varied. Things offend or please, not only because of what they are, but of what they may remind us. Even our enjoyment of scents is influenced in the same way; every scented flower or tree smells of, or at least suggests, something other than itself.

We pull a tuft of Groundsel; it is as redolent of bird sand, cages, and the blown-off husk as *Gardenias* and *Tuberoses* are of kid gloves and evening parties, or as crushed Maidenhair and the heavily scented exotic of funerals, weddings, or the crumpled ball dress. Poor Maidenhair! To how many uses art thou put, how endless thy missions! Too attractive, too ready to improve, is it not almost a misfortune that we are unable to disassociate thy exquisite sprays from the button-holes of Harry and Harriet? who, whatever may be the flower they wear, invariably pick off all its own green, substituting the inevitable sprig. It is their hallmark and *cachet* of distinction; but it is hard on others, when the sight of so beautiful an object should recall a short pipe, a stubby moustache, and a not too pleasing personality. In the same way the *Hyacinth* reminds us not of the slain son of Anycias, but of the sunny and firelit warmth of London drawing-rooms (sun and fire always quarrel at *Hyacinth* time), or perchance of the busy party of Lenten ladies at Friday work, the click of needles, the feel of flannel, the shriek of tearing cotton, and the tea-cup.

Some may deem such notions fanciful, but over the sensitive and imaginative it is difficult to exaggerate the power of association. We know of the little town boy who refused to believe a horse in the fields was not a cow; "because," he said, "horses had cabs to them." Association here was stronger than "seeing is believing." We take our friends round our own domains; they never look at the things they ought and we are longing for them to make remarks about; these are passed over for some—by us unheeded—trifle that appeals to their individual tastes or memories. We are seeing one thing and they another, for after all we only see that which we notice. Each one of us lives in a different world. The proper understanding of mental processes such as these might explain much of the fretfulness and apparent caprice, with which we torment our gardeners, who are trying in vain to please us, and can never wholly succeed as long as their bodies hold one mind and ours another; the only way is to get a gardener who is willing to reflect *our* mind if we have one. If we have not it is a different thing, and does not matter. It might also give a key to the strange dislikes people take to certain flowers and plants. One lady I know has such a distaste for *Michaelmas Daisies* that not one is allowed in her house or garden, even now when there are so many beautiful sorts and kinds to choose from. Investigation proves the root of the distaste to be nothing but association; the sight, even the smell of them, spells tears, farewells, and the journey back to school.

I have sometimes amused myself by trying to find out which was the favourite flower of our most familiar poets, and am sure it is nearly always one that has gathered round it the associations of childhood. Walt Whitman never gets quite away from the scent of the Lilac bush and its delicate spires of colour amid heart-shaped leaves of green, as it grew by the palings of his father's homestead on the plain. I have the same feeling for Sweet William, which takes me back to the age of three, and "E. V. B.," who has such a deep love for *Virginian Stock*, confesses how her affection for it began in the gardens of Hampton

Court, which as a child she knew by heart. To me *Virginian Stock* is the little sister's grave beneath the tree. It is the flowers we are brought up with, enjoying them more than we knew, which we continue to love the best; no others can vie with them.

Mary Cholmondely, in "Red Pottage," expresses the feeling very well. "As we grow older we realise that in the gardens, where life leads us, we never learn the shrubs and trees by heart as we did as children in our old garden of Eden round the little gabled house where we were born." There it was that every shrubbery was an enchanted thicket, the whorls of long, limp Chestnut leaves were fans or feathers, *Laburnum* real gold.

At Eastertide there comes an exodus of thousands of town toilers into the country. On every mantelshef of the homely lodging-house, and on the dining tables of smart hotels, will be bunches of Wallflower and Daffodil. They are a part of the holidays, and seem to the Londoner as if they grew just as and where he sees them. To the barrister Primroses are as much a part of the Easter vacation as are his wig and gown of life in court, and the Violets of the mead or hedge-row, generally a pale blue, and not much scented to them, picked on highway holidays, are as different from the Violets that belong to London baskets—and smell of them—as town air is from country.

It is wise to cultivate pleasant associations; they are lightly impressed, or seem to be so, but the seals they set are indelible, especially when imprinted in childhood.

"There was a child went forth every day. The early Lilacs became part of this child. And grass and white and red Morning-glories and white and red Clover." These are the things, among others, less lovely, alas! on which our souls feed, and are slowly building up that part of us which is immortal.

F. A. B.

THE KITCHEN GARDEN.

SPRING CABBAGE WHEELER'S IMPERIAL.

LAST year I saw some splendid breadths of this Spring Cabbage in the West of England, and determined to give it a trial. It was originally sent out by the late Mr. G. Wheeler of Warminster, Wilts, and I grew it some twenty years ago in Gloucestershire, where it was a great favourite, but owing to various changes I quite lost sight of it. As Ellam's Early Dwarf was introduced afterwards the useful Imperial was not so necessary. With me the older variety is quite equal in quality to the newer variety; it is of delicate flavour, and, though a few days later, is equally as valuable, slightly larger, and has few outer leaves. The growth is compact, close, and cone-shaped; indeed, it is well worth attention for its good quality. I am very pleased to get hold of the true stock of the original Imperial Cabbage through the kindness of Messrs. Harraway and Scott of Warminster, and for growing in a private garden it cannot be beaten owing to its compact growth and excellent quality; it is very hardy, and grows close to the soil.

LETTUCE LITTLE GEM.

THERE is no difficulty whatever in having splendid Lettuce early in the summer, but the grower's trials begin in July, especially in such seasons as we have had of late years. Owing to the heat and drought only a few special varieties have stood the test in a light gravelly soil. So far Little Gem has never failed, even in the worst seasons.

From a late May sowing a regular supply has been obtained at the time named, one of the worst periods if the season is dry. Little Gem, as its name implies, is not large, but dwarf and compact, and the leaves are dark green with very solid hearts, which remain sound a long time before running to seed. This is a great gain, and being of such splendid quality the solid, crisp hearts are much liked as a salad. It is a Cos variety, though, not unlike a Cabbage Lettuce, in growth being a little more erect. It requires less space than many other Cos varieties, and I would advise two sowings for summer supplies, one in the middle of May, and another about three weeks later. For the latter sowing, sow very thinly in rows, and thin to the distance required, sowing on a cool border in well-manured land.

FORCED SPINACH (THE CARTER).

WHENEVER a dearth of this useful vegetable is threatened a supply may readily be had at this season of the year by forcing—that is, sowing under glass and getting an early supply. To many it may appear out of place to force such a simple vegetable as Spinach, but it is far better to force than to run short, and in some gardens there is an almost daily demand for it. We have grown these plants both in frames sown broadcast, also in drills and in pots, and find that to get a quick supply in a few weeks a good return is secured by frame culture if a little warmth can be given at the roots. By sowing, say, in February, a supply may be had in April and May, a season when there is a scarcity. When sown in drills in frames a row of small Radishes or Lettuces may be sown between as a catch crop. I prefer the Radishes, as they quickly mature; the Lettuce needs transplanting. As regards varieties there is a splendid new one that forces grandly, gives very large succulent leaves, and is quite ten days earlier than any other variety; this is the Carter Spinach, sent out by Messrs. Carter, High Holborn. It is also a very fine Spinach for first crop in the open. G. WYTHES.

SORREL AS A VEGETABLE.

IN many gardens Sorrel is grown, and a few leaves are at times used for salads. It is also excellent when boiled and served like a green Spinach; indeed, some prefer the flavour of ordinary Spinach to that of the Mountain Sorrel. One advantage in

growing this plant for use in vegetable form is that its culture is so simple. Seeds sown in the spring in a well dug and not very dry soil will give a full crop in a short time. I would advise three sowings; that for summer use on a shady or north border, in rows 18 inches apart, and the plants well thinned in the rows. In gathering the large single leaves should be cut, as this allows the smaller ones to develop. I have seen the plants cut all over, but do not advise it. There is no need to sow once a good stock has been secured, as Sorrel divides readily, and replanted every spring will give a season's supply. The Mountain Sorrel is the best, as this has a much larger leaf than the common or field Sorrel, and does not run to seed so quickly; the leaves when boiled are less acid, larger, and of a much darker green. When grown regularly by division it may with advantage have a deeply dug soil. G. W. S.

GRAMMATOPHYLLUM SPECIOSUM.

WE are indebted to Mr. Walter Fox, curator of the Botanic Gardens, Singapore, for this photograph of an exceptionally fine specimen of the largest of all Orchids. It has been an inmate of the Singapore gardens for some twenty-five years, flowering annually, and growing with a vigour that we cannot hope to see in our Orchid houses, even with the most skilful treatment. The dimensions of this specimen are: Circumference, 47 feet; height, 10 feet; number of flower-spikes, 55; length of flower-spikes, 7½ feet; number of open flowers, 2,090; of flower-buds, 1,110. The flowers, each of which is nearly 6 inches in diameter, remain fresh for about six weeks; the sepals and petals are oblong, yellow, richly spotted and blotched with red-purple; the lip is yellow with red lines; their odour is richly aromatic. This plant is growing in a bed of clayey soil, which is always moist (there is no dry season in Singapore), and it receives an annual top-dressing of cow manure and dead leaves.

The finest plants found growing wild in the Straits are usually high up in the forks of very large trees, where they get abundance of sunlight. About ten years ago Messrs. F. Sander

and Sons tried to obtain one of the largest of these Malayan specimens to exhibit at the Chicago Exhibition in 1893, but it proved too unwieldy for the journey, and when it arrived at St. Albans was in too damaged a condition to send to Chicago. The only part that was preserved is now at Kew, where it flowered last winter for the first time. The first plant to flower in this country was in the famous Loddiges collection at Hackney in 1832, and the second flowered seven years later in the garden of Mr. Farmer at Ewell. More recently a fine flower spike was produced in the collection of Sir Trevor Lawrence, Bart., who exhibited it at the Drill Hall in September, 1897, when it was awarded a first-class certificate and a gold medal. An Orchid which is literally a load for an elephant, and requires an area equal to that of a dwelling-room for its accommodation, is scarcely a plant for an ordinary collection. It is, however, one of the Titans of the vegetable kingdom, and one can gain some idea of its size and magnificence from the illustration and particulars here given. W. W.

NOTES ON HARDY PLANTS

IRIS ASSYRIACA.

RECENT additions to the orchioideis group of bulbous Irises should serve to stimulate some interest in several of the older plants of the same type, many of which are very beautiful and quite easy to grow. *Iris assyriaca*, a closely allied plant to the well known *I. sindjarensis*, is one of the most fascinating of all. The bulbs are exceptionally large and heavy—of the “come-to-stay” type—and the leafage is very broad, forming a stout distichous tuft 18 inches high. The flowers are borne in the axils of the upper stem leaves, and are pure white in colour, occasionally slightly tinted with very pale blue; they average 4 inches in width. Typical *Iris assyriaca* has semi-transparent flowers with pure white falls and pale lavender style branches, but a number of colour forms frequently occur amongst seedlings and imported batches, as is the case with most species of this very sportive genus. Whatever the tint of colour may be, *Iris assyriaca* has flowers that may be described as marvels of delicacy, reminding one of the thin satiny texture of the flowers of many exotic *Pancretiums*. A single plant generally produces five flowers in succession, though individually they do not last more than three days before collapsing. The plants can be well grown on a rockery with a southern exposure, where they can receive a good ripening whilst resting. The bulbs produce thick fleshy roots, which penetrate deeply, and they should not be moved when once established on this account. All the Irises of this group thrive remarkably well if plenty of builders' rubbish, mortar, &c., is mixed with the subsoil.

TULIPA MICHELIANA.

THIS is a rare species, closely allied to *Tulipa Greigi*, and gives promise of becoming a really good garden plant. It grows nearly 2 feet in height, and has glaucous leaves streaked with dull red in the way of those of the well-known *T. Greigi*. The flowers are coloured a rich glowing crimson, flushed glaucous red on the outside of the outer petals, whilst the inside of the flower is blotched rich black with a bright golden undulating ring around the black throat as a dividing colour. The flowers are as large as those of *T. ges-*



GRAMMATOPHYLLUM SPECIOSUM IN THE SINGAPORE BOTANIC GARDENS.

neriana major, which it also much resembles in form and habit. The most marked characteristics of the newcomer are the striped leafage and glowing golden ring near the centre of the flower. It is a handsome Tulip, and likely to become a garden favourite when plentiful.

HYACINTHUS AZUREUS VAR. AMPHIBOLIS.

THOSE who recognise the value of *Hyacinthus azureus* for naturalising in grass and for clothing stretches of flat rockwork will be glad to learn something of this new giant form. The spikes are 8 inches in height, and bear heavy heads of some fifty bells, rather paler in colour than those of the type, due, doubtless, to the whitish margins of the petal lobes. From two to three spikes are produced by each adult bulb, and the comparatively great height of these and the larger bells render this variety superior to the type for grass

congeners, either in the rock garden or in a cold house, should complete the trio by adding this charming plant so soon as it can be procured. Where they cannot be grown in the open air it is well to remember that no finer dwarf spring plant can be grown under the shelter of glass than *Shortia galacifolia* with its multitude of pure white flowers, which are not so frail as they might seem to be, and *Schizocodon soldanelloides*, though possibly it might not prove quite so free flowering, would certainly thrive under the same treatment and would make a fine and interesting companion plant. The red-bronze colour of the new leaves gives a fine contrast.

K. L. D.

TULIPA GALATICA.

THIS *Tulipa* is, I believe, a true species; I first saw it in 1900. It is very distinct, and in point of delicate colouring and delightful shape the flowers have much to recommend them. They are

LA MORTOLA.

THE picture of Sir Thomas Hanbury's residence, standing in his far-famed hill garden, will be to many of our readers a pleasant remembrance of delightful hours spent in those private grounds, that by their owner's kindness and true desire to give not only pleasure but instruction, may be visited on certain days. The garden of La Mortola contains in fact one of the most comprehensive botanical collections in Europe, and the conditions of the rocky hillside, of which every advantage has been taken, make it one of the most beautiful gardens of the world, as well as one of the deepest botanical interest.

The general view of the house and the nature of the ground only are shown in the present illustration, but we have the privilege of describing and illustrating some details of the garden's treasures, which will follow in due course.

THE MOUNTAIN PRIMULAS.

(Continued from page 328.)

SAXATILE OR ROCK-LOVING SPECIES.

P. COTTIA (E. Widmer).—A plant of the Cottian Alps (Val Germanasca) at 3,000 feet to 7,000 feet, in the fissures of rocks (figured in Neubert's *Garten Magazin*, January, 1890). It is near *P. villosa* and *P. commutata*; the fact alone of its strange and remote habitat might have inclined its author to describe it under a separate name, but it also possesses some distinctive characteristics. This is the description of the plant given by Melle Widmer from the specimens found by Dr. Rostan, the famous Piedmontese botanist: "Plant saxatile; leaves ovate-lanceolate, tapering gradually to the petiole, $1\frac{1}{4}$ inches to $3\frac{1}{4}$ inches, rarely 4 inches long,* and three-eighths of an inch to $1\frac{1}{4}$ inches wide; generally rounded to the top, denticulated from the middle to the top, rarely lower; flower stalk longer than the leaves, bearing two to eleven flowers on pedicels one-tenth



SIR THOMAS HANBURY'S RESIDENCE AND THE VILLAGE OF LA MORTOLA. (Photographed by Miss Willmott.)

planting, as the spikes and leafage are carried well above the grass. The bulbs are unusually large, but increase slowly. On the other hand, and this is more desirable, the plants mature quantities of good seeds which require no harvesting, as they are quite capable of germinating in all but the strongest grass land. It begins to flower at the same time as *H. azureus*, but lasts a fortnight or three weeks longer.

G. B. MALLETT.

SCHIZOCODON SOLDANELLOIDES.

THIS beautiful Japanese plant, which was introduced by an amateur in 1891, is now showing its salmon-pink fringed bells above its tufts of round, leathery leaves in a sheltered nook of the rock garden at Kew. It belongs to the same order as *Shortia galacifolia* and *Galax aphylla*, and is still comparatively rare and little known. As the name implies, its flowers resemble those of *Soldanella* in shape, though not in colour, and the whole plant is more vigorous in habit. Those whose gardens admit of giving the conditions required by its

of great substance, average 4 inches in length and 6 inches to 8 inches across when fully open, and are coloured cream with olive-green throats, the outer petals especially being prettily marked with olive-green veining on a citron-yellow ground colour, shading toward the margins a paler tint, the extreme margins being of a delicate creamy white.

The flower has much of the soft colouring of *T. viridiflora præcox*, but it is more refined and shapely. The plant averages 8 inches in height, the leafage is large, undulating, and nearly prostrate, and the stems are very glaucous, nearly milk white, and very stout. The flowers last a long time in good condition, and never lose their cup-like outline, even under the influence of strong sunshine. It is a very rare plant—only a few growers have it under cultivation—but as it is a thriving plant it should soon find its way into many gardens. It requires the same treatment as that given to the rank and file of garden Tulips.

G. B. MALLETT.

of an inch to a quarter of an inch, rarely three-eighths of an inch long; bracts ovate-obtuse, from a quarter to half the length of the peduncle, the lower bract foliaceous, but rarely longer than the others; calyx one-eighth of an inch to one-quarter of an inch long, divisions obtuse or pointed; all the foliaceous parts of the plant are glandular-pubescent, the glands small and reddish. Flowers bright carmine-rose, going off purplish; tube outside and at the throat set with glandular hairs; stamens longer than the style; capsule three-sixteenths of an inch to five-sixteenths of an inch long." This species does well in gardens, but requires a shady place in the joint of a non-granitic rock. It flowers in April and May, and ripens a quantity of seed.

* I found some near the Col d'Abriès, at Prali, in the Cottian Alps, whose leaves were larger, but they were growing in rich, dark mould.



PRIMULA GLUTINOSA (LIFE SIZE).

P. crenata (Lam.) syn. *P. marginata* (Curt.).

P. cridalensis (Gusm.), mentioned by Dewar,[†] is a synonym of *P. Venosi* (Huter).

P. decipiens (Stein), Alps of the Val d'Aosta and of Piedmont between 6,000 feet and 7,100 feet. It is a form of *P. hirsuta* (All.), with soft pale green leaves furnished with slightly glandular hairs; flowers from one to four, rose-lilac, on very short peduncles. It is quite likely that this is only a high alpine form of *P. hirsuta*, which is of infinite variety, especially in the southern portions of the Alps.

P. decora (Sims), in *Bot. Mag.*, t. 1922, is simply *P. hirsuta* (All.).

P. dinyana (Lagger), figured in Reichenbach's "Icones," xvii., t. 60, under the name of *P. muretiana* (Moritz non Kern.), is a hybrid of *P. integrifolia* and *viscosa*, and is halfway between its parents. The dark purple flowers are handsome; the plant is rare and difficult to grow.

P. discolor (Leyb.) (Reich. "Icon." xvii., t. 55), a natural hybrid of *Auricula* and *anensis*, and nearly allied to *P. Arctotis*. It differs from *P. anensis* by its flowers having long peduncles, by its larger leaves and its slightly mealy calyx, and from *P. Auricula* by its glandular leaves, which are not fleshy. The flowers vary in colour, being white, yellow, rose-coloured, or brown.

P. dolomitica (Baker, in *Gard. Chron.*, 1884, May 3, page 577).—On April 22, 1884, Sir John Llewellyn exhibited at the Auricula Society's show a form of *P. ciliata* with distinctly crenate leaves, and with a long-tubed corolla that at once appeared to distinguish it equally from the type and from *P. Auricula*. Flowers bright yellow.

P. Dumoulini (Stein).—From the Tyrolean Alps, a hybrid of *P. minima* and *spectabilis*, nearest to *minima*; leaves spatulate-cuneate, coarsely toothed. A small species.

P. Escheri (Brügg.).—Found by Brügger in the Alps of the Engadine; a hybrid of *P. Auricula* and *integrifolia*. Flower dull red-brown, yellow at the throat.

P. exscapa (Heg.).—From the central High Alps; only a high alpine form of *P. viscosa* (All.).

P. Facchini (Schott) syn. *P. floerkeana* (Facch.), *P. magiassonica* (Porta); another hybrid of *P. minima* and *spectabilis*. It is near *P. coronata* and *Dumoulini*, but larger and stouter; the leaves are orbicular, bluntly toothed or sometimes entire (Reich. "Icon." xvii., t. 59).

P. floerkeana (Schrader non Reich.).—A hybrid of *P. glutinosa* and *minima*; frequent in the granitic Alps of the Tyrol between 4,000 feet and 7,000 feet. Leaves spatulate, tipped with nine to fifteen large blunt teeth, of which the middle tooth is larger than the side ones; stalk glutinous, bearing three to five flowers of a fine purple-rose colour. Five different *Primula floerkeana* have been published by Schrader, Facchini, Lehmann, Reichenbach, and Salzer. They are all hybrids; those of the four last authors will be given under their synonyms.

P. Forsteri (Stein).—From the Alps of the middle Tyrol, between 3,000 feet and 6,000 feet. A hybrid of *P. hirsuta* and *minima*, looking like a stout *P. minima*, with rather longer flower stems, and bearing two or three flowers of a fine crimson.

P. glandulosa (Bonjean).—A synonym of *P. pedemontana* (Thoms.).

P. glaucescens (Moretti) syn. *P. calycina* (Duby) (Reich. "Icon." xvii., t. 58.).—Calcareous mountains near the Lake of Como. Near *P. spectabilis*, from which it is distinguished by its bluish grey leaves, which are stiff, quite glabrous, not glutinous, and with a cartilaginous margin; also by the lobes of the corolla being incised to only one-third of their depth. The large handsome flowers, coming in March and April, are of a fine carmine-lilac colour. It does well in the joints of walls and cracks of rocks either in sun or shade. Porta has published a variety *Longo-barda*, in which the teeth of the calyx are obtuse instead of acute.

P. glutinosa (Wulff.) (Reich. "Icones," t. 60, iv.-vi.).—From the Central and Eastern Alps, in schistose and granitic soils. A glutinous plant, every part of which is sweet-scented. It is small, and is always found in large colonies. Leaves erect, narrow, standing up round the flower-stem, margined with seven to twenty small teeth; stem $2\frac{1}{2}$ inches to 4 inches long, bearing one to six violet-lilac flowers. It is occasionally found with white flowers. This species is so abundant in its native places that it forms the main part of the wild growth. It is by no means easy to cultivate in gardens. Here, at Geneva, I can only grow it in pans of sphagnum in full sun. At La Linnaea it is a partial success in the open ground and on rockwork. It evidently requires to be in a numerous colony; if isolated it soon dies.

Brügger has published (Reich. "Icones," t. 60, i.) a variety *exilis* of *P. glutinosa* of small size and with a few-flowered umbel.

P. Goblii or *Göbelii* (Kern).—From the Alps of Styria, a hybrid of *P. Auricula* and *villosa*

resembling *P. Arctotis*. It is possible that this is again one of those Auriculas of uncertain origin grown in the gardens of the Tyrolean mountaineers.

P. graveolens (Hegel) syn. *P. viscosa* (All.).

P. Heeri (Brügg.).—From the high Alps of Grisons and the Tyrol; a hybrid of *P. integrifolia* and *hirsuta*. It is superb in our botanical alpine gardens of La Linnaea. The leaf is short and almost entire, ovate and slightly glandular; the flowers, carried on very short stalks, are large, numerous, and of a brilliant crimson. Habit dwarf and tufted.

P. helvetica (Don) syn. *P. rhatica* (Gaud.).

P. hirsuta (All. non Vill.) syn. *P. viscosa* (Vill. non All.), *P. decora* (Sims), *P. villosa* (Lehm. non Lam. nec Jacq.).—Alps and Pyrenees, between 2,000 feet and 7,000 feet in granite rocks. (Reich. "Icon." xvii., t. 56).—This species, well known in cultivation under the name *P. viscosa*, is the most frequent in the granitic Alps, where it brightens the rocks in the early days of spring. It forms large rosettes of leaves that are glandular-pubescent on both sides, and that are margined with a glandular ciliation; the leaves are ovate-orbicular, contracting suddenly to the petiole and coarsely toothed at the edge; the flowers are crimson or purplish crimson, borne two to fifteen on a viscous stalk 4 inches to 6 inches long, with pedicels much longer than the involucre; the capsule is longer than the calyx.

It can easily be grown in fissures of rock-work and old walls. There is a variety named *angustata*, from the Alps of the Grisons, whose leaves contract gradually into the petiole, not sharply as in the type. Pax has published a variety *ciliata* syn. *P. ciliata* (Schrank), *P. confinis* (Schott), of which Reichenbach gives a figure in his "Icones," xvii., 40, t. 62, which has the leaves regularly toothed and margined with whitish glandular hairs. Schott has published another variety with very irregular toothed and with pale rose coloured flowers. *P. pallida* (Schott). Finally, English horti-



PRIMULA HIRSUTA (ALL. NON VILL.) VAR. ALBA; KNOWN AS PRIMULA NIVALIS IN ENGLISH GARDENS (NEARLY LIFE SIZE).

[†] Journal of the Royal Horticultural Society, vol. vii., No. 2, page 278.



PRIMULA GLAUDESCENS (LIFE SIZE).

culturists have distributed under the name *P. nivea* and *nivalis* (Hort.), a beautiful form with very pure white flowers, which seems to be absolutely acclimatised in gardens and is of great beauty in rockwork; we have it growing spontaneously in the northward-facing rocks that are below the garden of La Linnaea.

P. Huguenini (Brügg).—From the high Alps of the Grisons; a hybrid of *P. glutinosa* and *integrifolia*. I have never seen it.

P. Huteri (Kern.).—A hybrid of *P. floerkeana* and *glutinosa*. Leaves ovate - spatulate ending in eleven to fifteen blunt teeth, the middle one rather the longest; stem glutinous. Tyrol.

Geneva.

H. CORREVON.

(To be continued.)

THE CULTIVATION OF VIOLETS.

(Continued from page 264.)

III.—AUTUMN AND WINTER TREATMENT.

IN commencing these notes I pointed out how necessary it was to get the young stock of plants in their summer quarters before the hot and dry weather sets in, and to be successful with them during the winter it is equally necessary not only to have them in frames, but established ere the short sunless days are with us. To allow the plants to remain in the open until the first autumn frosts appear, and then suddenly to transfer them to frames where they have to be protected at once, is wrong, and, managed in such a way, the plants will not produce flowers until the roots take to the new soil, i.e., in spring. The plants should be in the frames several weeks before it is deemed necessary to place the lights over them, by which time they will have got over any slight check, and the roots having become established in the new soil the buds already formed will develop into

bloom at once, and with due care a succession of flowers will be obtained until April.

SUITABLE FRAMES.

However well the plants may have been prepared during the summer, it is necessary to have suitable pits or frames placed in the most likely position to suit the requirements of the plants. If portable frames are to be used, and there is nothing better for the purpose, a snug corner in the garden should be selected, where it will not be exposed to cold winds, while the aspect must be due south so that every ray of sunshine may reach the plants during winter. A bed of leaves and stable litter, about 1 foot or 18 inches high, should be formed for the frame to rest upon, making the beds considerably higher at the back. This not only causes rain to pass off quickly, but what is of even greater importance, the plants being on a gentle slope towards the south gain more sun than they would on the level. Of course the frame ought to be made frost proof, and this is easily done by packing a good lining, 2 feet or more wide, of leaves and litter around the sides and ends, and also by bringing the material up to the top of the frame. Placed in such quarters, with the lights properly covered during severe weather, the plants are more sheltered and cosy than when placed in brick pits, which, as a rule, are not surrounded with manure or litter, unless they were formed in the old-fashioned way with pigem-holes. However, it is not heat the plants require, but rather an even temperature and protection from frost and damp. Some shallow brick pits are furnished with a small flow and return hot water pipe, sufficient to expel damp, but not enough to keep out severe frost without the lights being

covered. Such a pit would suit Violets during the winter providing the pipes were only slightly warmed when the plants showed signs of mildew.

COMPOST.

Nothing is more suitable for Violets in frames than soil that has been used for Melons and Cucumbers mixed together. The former alone might prove too heavy, and the latter the opposite. Therefore a mixture of the two makes an ideal compost. There should be at least 9 inches of this placed in the frame. If the frame is a deep one some other material must be placed in the bottom, so that when the soil, 9 inches deep, is put in the surface will be about 1 foot from the glass. By this means the plants are brought up to the light, which is an advantage. It is wise to have the frames in readiness to receive the plants when the first favourable opportunity occurs.

REMOVING THE PLANTS TO THE FRAMES.

We find from the middle to the third week in September a good time to lift and place the plants in the frames, but something depends on the conditions of the weather at the time. Should there be a few dull, showery days, full advantage must be taken to lift and transplant; but, on the other hand, it would not be wise to do so during drought. The plants will not make much leaf growth before spring, therefore valuable space should not be lost by planting too far apart; each specimen, however, must stand clear of its neighbour. Watering or syringing may prove necessary for a few days if the leaves flag, but if the plants are cut round some days previous to lifting with a sharp spade, so as to sever the straggling roots, and watered afterwards, they will lift with a better ball of soil and feel the removal less. After planting the longer the lights can be left off the better, as at no time, even during winter, should the plants receive more protection than is absolutely necessary on account of frost and winds.

INSECTS AND DISEASES.

The Violet, like other plants generally, is not exempt from the attacks of insect pests and diseases. Red spider is the most troublesome, but it is only when the roots suffer from want of water or the use of fire-heat is abused, that it appears on plants under glass. The causes should be remembered and carefully guarded against. Damp or mildew, which spread very quickly, will sometimes cause plants to die off, and a want of ventilation may cause this, or, what is as bad, faulty lights, which allow the rain or condensed moisture to drip on the foliage. Hence the wisdom, as pointed out above, of having the frames on a slope. The lights, however, ought to be properly glazed and painted. During the winter the plants require very little water, but they are benefited by slightly disturbing the surface soil and removing decayed leaves at the same time.

By following the simple hints here given, successful Violet culture will not be found difficult, but attention must be given during the summer to the preparation of suitable plants, then there should be no lack of welcome bloom in winter.

RICHARD PARKER.

THE FLOWER GARDEN.

ST. BRIGID ANEMONES.

ANEMONE CORONARIA is quite an old-time plant, having been introduced from the Levant more than 300 years ago, and *A. hortensis* has been known to our gardens nearly as long. These appear to be the two species from which we have obtained the beautiful St. Brigid, or what are sometimes called Poppy Anemones. These have been considerably improved during the past few years, and the Alderborough strain, which was so well shown at Birmingham and at the last meeting of the Royal Horticultural Society, is second to none. It is chiefly by careful selection and the weeding out of any inferior flowers on their first appearance that such a high state of perfection has been reached. It would be difficult to describe the beautiful shades of colour from white to rich scarlet-crimson and purple-blue. The flowers are semi-double, and as they last so long in flower in the garden, and are also valuable for cutting, they should be much more generally grown.

It seems to be generally supposed that only in the humid climate of Ireland can these beautiful flowers be grown successfully, but this is not so. There may be a little difficulty in finding just the right position, and many fail through not understanding their natural requirements, but they are as amenable to culture as the ordinary single *A. coronaria*, which when once established in a suitable position will continue to flower most of the year.

I have found them do well on a border exposed to the morning sun but shaded by a hedge later in the day. They will grow in any ordinary garden soil, but a rich deep loamy soil suits them best, and the ground should be fairly firm. They may be planted any time during the autumn, and the corms should be well covered, but not planted deeply. They are most liable to suffer if the ground gets very dry before they are well rooted, and are then difficult to re-establish; the stored-up nutriment in the corms is exhausted before the roots are able to give further assistance. This is probably the chief cause of failure. Other plants started from dry corms are liable to suffer in the same way if started prematurely and then checked. I may add that St. Brigid Anemones seed freely, and seed sown early in the autumn will flower the following year. They may be left to flower without transplanting.

A. HEMSLEY.

THE LARGE-FLOWERED MIMULUS.

THE beautiful forms of large-flowered *Mimulus*, so free and so continuous in bloom, do not appear to be so generally grown as they deserve to be, and yet it is a plant of easy culture, coming quickly from seed, and flowering when quite small in size.

The large-flowered *Mimulus* have been greatly improved during the past quarter of a century. The late Mr. A. Clapham led the way a few years ago when he selected some types of large size and rich markings, and plants of this strain, if not permitted to seed, will go on blooming for a length of time, especially if the main stalk can be cut away and young shoots allowed to grow up and take their place. Young plants throw the finest blooms from seed, but the size becomes slightly smaller as the plants bloom more profusely. A sowing of seed may be made at once, scattering the minute grains very thinly over the surface of a pan, pot, or box of fine, rich light soil. Germination is quick, and as soon as the seedlings have made their third pair of leaves they should be pricked off into other pans of similar soil, for however carefully the seeds may be sown they are so minute that thick sowing is inevitable. *Mimulus* may be grown as pot plants, which is the way to have them in the most satisfactory manner, or they may be planted out in clumps and beds, and if they are placed in good soil and looked after in the matter of watering and supporting they remain a long time in bloom. I found that during the height of last summer's heat and drought the *Mimulus* was more persistent in blooming than other things. The ground colours of the flowers are either yellow, as found in the normal form, or pale amber, and even approaching white, while some are bright dark crimson. Some time ago there was a fine form of this in cultivation under the name of Brilliant, and where seed of this colour can be obtained the plants make excellent pot subjects. In order to keep a strain up to the mark there should be a selection of the finest blooms with the richest markings for a supply of seeds. The *Mimulus* as a perennial rootstock and a particular variety can be kept through the winter to give increase of stock in spring. Care must be taken not to keep the plants too dry during the winter; there should be moisture enough to keep the creeping roots plump. The roots will keep safely through the winter on fairly dry spots; the roots are apt to perish if they are in cold and wet soil. R. DEAN.

ESPALIER-TRAINED PEAR TREES.

OF the many ways in which the Pear tree can be trained, the espalier, in one or another of the various forms to which this system so conveniently adapts itself, is certainly one of the best, and amongst these forms the low arched trellis, so much in evidence in the Royal Gardens, Windsor (see illustration), is as efficient, ornamental, and economical as any. They are economical, because they are inexpensive and easily constructed. Being made entirely of iron they are practically imperishable, and the cost of up-keep and repair is reduced to a minimum. That Pears trained in this way are ornamental goes without saying, and is evident from the illustration. I do not know of a more pleasing or of a more beautiful fruit garden picture than the broad central walk at Frogmore presents when the Pear trees are in bloom, flanked as it is on either side by what appear to be banks of lovely blossom. In the autumn, if not so beautiful, it is rendered intensely interesting by the crops of fruit the trees bear, and especially by the way in which the fruit is disposed on the trees; it rests obliquely on the branches, where it is well exposed to the sun as well as to the view of passers by.

This form of training is efficient, because results are satisfactory in the way of good and regular crops.

It is efficient also in so far that the labour of attending to the trees is small, as no ladders or steps are required. All tying, pruning, thinning the fruits, and gathering the crop are well within the cultivator's reach as he stands on the alley on either side of the trellis. It has been urged against this form of trellis that the trees are exposed to greater danger from early summer frosts when they are in bloom by reason of the large extent of flat surface presented, and the less protection from foliage that this system affords as compared with other forms of espaliers. The objection on the face of it seems reasonable, but in practice this is rarely found to be detrimental.

A convenient size to erect these trellises is 4 feet high at the apex and 6 feet wide. The curve is formed of $\frac{1}{2}$ -inch iron rods, made secure in the ground by being cemented into stones. They should be fixed at distances of 5 feet apart. The horizontal wires for training should be fixed 10 inches apart, and to make the trellis perfectly rigid they should be $\frac{1}{2}$ inch thick. The position of the trellis should be from north to south for preference, but these espalier trees do well exposed to any aspect. The trees may be planted in the centre and trained down the sides, or they may be planted on either side and trained upwards; the latter is the most expeditious way of covering the trellis with fruit-bearing trees. VISITOR.

CORRESPONDENCE.

(The Editors are not responsible for the opinions expressed by their correspondents.)

MR. BURBANK AND HIS WORK.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—During some months residence in Santa Rosa a year ago I had many opportunities of observing Mr. Burbank and his work, and it may interest your readers to hear what a variety of plants he is expending his energy upon. Mr. Burbank has locations which are very favourable

to his peculiar line of work. There is very little frost at Santa Rosa, so little that it hardly needs to enter into his calculations. The soil is rich, and an ample supply of water is available for sprinkling, while at Sebastopol, seven miles to the westward, where his larger stock is grown, the winter rains and summer fogs give ample moisture. Heavy fogs are frequent during the summer in both localities. Mr. Burbank can grow most of his seedlings out of doors, and few plants need winter protection. The season of growth is very long, and in some cases two generations can be produced in a single year. He has one great drawback in the shape of ill-health, and it is only by putting a small stock of vitality to the very best account that he can begin to carry on his many operations in hybridisation and selection, and even then the strain is dangerously great. Still, by virtue of simple, regular habits and the strictest temperance, he has laboured for years, when most men would have sought a hospital, and has accomplished a vast amount of labour.

It is Mr. Burbank's custom, when taking up a new plant, to first secure the best that can be had from any source as a starting point as well as a standard of comparison. He then, by hybridisation or selection, or both, begins the process of improvement or variation toward some desired point. I can bear witness to the fact that he often does begin the process with a definite aim, which he often succeeds in reaching, but at the same time the forces which a hybridiser handles are so complex and unknowable that, in the greater number of cases, the best results are in lines not foreseen. I cannot see how the element of chance can be made a minor one in such work. The successes must be in the ratio of one in thousands at the very best. To enumerate all of the experiments which Mr. Burbank has made would be a large undertaking. Perhaps no plant worker who ever lived can point to more valuable results, yet very many experiments were fruitless, and the reward for many others was sadly disproportionate to the labour expended. As fast as a plant was improved to a desirable extent or a failure shown it was dropped. At present the number of plants grown yearly is very large, but any calculation would be futile. The weeding-out process begins in the seed beds and continues to the last stage.

Mr. Burbank's first great success was with Plums, and they have always been a strong point with him. In 1901 about 200,000 seedlings were grown and 100,000 older seedlings were being



ESPALIER PEAR TREE IN FLOWER IN THE ROYAL GARDENS, WINDSOR.

tested. A vast number show defects in the nursery row and are weeded out, the best are grafted on stock trees and tested. They are hybrids of fully forty species and varieties, the sixth to tenth cross, and almost any result may be looked for from these seedlings. For sixteen years he has been hybridising and selecting *Amaryllis vittata*. There are now 75,000 to 100,000 seedlings all in the open ground. One strain, the Giant, are simply immense, and are the best result of his year's work. I lack that knowledge of the best results achieved in Europe in various floricultural lines that would enable me to make comparisons between these and others, but Mr. Burbank's best are the finest I have ever seen.

In Dahlias he has 160,000 seedlings from plants from the world's best establishments, and is simply selecting for fine variations; 20,000 seedlings of *Eschscholtzia* Mandarin twice a year are being grown to breed a solid pink variation, and some very fine ones have been produced, but Mr. Burbank is not yet satisfied. With 150 zonal Geraniums, the best from a great European establishment, he has begun an attempt towards further improvement and selection. With a stock of 160 species of *Sedums*, *Echeverias*, &c., he is growing 10,000 hybrids a year, with hopes of great improvement; 25,000 *Clematis* seedlings, all hybridised, are on hand, and 15,000 *Tigridias*, the fourth generation of hybrids, were on hand in 1901.

He is striving for Apples which will resist the woolly aphid, as we call the American blight, also for very early and very late varieties, and in the endeavour has 40,000 seedlings coming on; 40,000 seedlings of *Elaeagnus longipes*, selected to eliminate thorns and secure better quality, are another venture, and 50,000 garden *Mimulus* still another. He is seeking to improve the Walnut and Chestnut, and there are over 2,000 Japanese Chestnuts of the fourth generation on the Sebastopol grounds.

The Belladonna Lily has always been a favourite with him, and over 25,000 selected and crossed plants are several generations from the initial point. A fine seedless Plum and a good hybrid between the Plum and Apricot are accomplished facts. Then the improvement of Apricots, Quinces, Pears, and the American Grape have long received much attention at his hands. A winter Rhubarb is an especial favourite. Juneberries selected from the best wild and tame have been carefully improved, Currants and Gooseberries have not been forgotten, and the production of ornamental Elders, edible improved Cactus fruits and Potatoes, with beautifully coloured interiors, are mere diversions for so hard a worker. Then Parsnips, Aquilegias, *Thalictrums* and Cherries, *Brodias* and *Camassias*, Grasses useful and ornamental, thousands of hybrid Roses, each claim some time, while tens of thousands of *Chlidanthus* fragrans are being grown and selected from to secure better flowering qualities and greater hardiness. I had almost forgotten the Shasta Daisy. Doubtless some credit is due to Santa Rosa climate and some to Mr. Burbank's skill as a gardener, but there are hundreds of plants of this beautiful species in flower, any one of which would create a furore at a great flower show and immeasurably superior to the ordinary garden forms we know. I believe it will come to be considered Burbank's greatest floral success.

Mr. Burbank trusts no one to select or hybridise for him, although he has excellent help. The strain upon his nervous system during midsummer, when hundreds of thousands of fruits must be tasted and carefully compared, can hardly be appreciated by any one except a tea-taster. The fact that any sort of plant life does better in one locality, and that, no matter how satisfactory a thing is in one place it may be a failure elsewhere, must never be lost sight of in pronouncing a verdict on new plants. Mr. Burbank is entitled to a full allowance on this score, but if he is given credit only for those of his productions which are universally acknowledged to be of the best his place among plant breeders will be very high.

California.

CARL PURDY.

BERBERIS NEPALENSIS OR B. JAPONICA.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—Your correspondent "J. C." in the number for May 3 recommends raising this shrub from seed, and says "plants obtained by other means rarely succeed well." No doubt seed is an excellent plan for obtaining a number, but it will be many years before such plants are of any size. I have grown *B. japonica* for a number of years, the main clump of plants being much crowded together and growing under an overhanging Thorn tree where they hardly ever get a direct ray of sunshine; they have consequently grown about 5 feet to 5½ feet with bare stems and without any side shoots. From time to time, therefore, I bend these long shoots down, and they are so tough that they may be bent without any fear of breaking them, pegging them into a shallow hollow and covering them with a few inches of earth. In about a twelvemonth they are well rooted. Such layers move well and grow away freely, and I not only have a young plant 2 feet to 3 feet high, but the stem remaining makes several breaks, and I thus secure heads of foliage of different heights in the original position. Such young plants, 3 feet high, I have planted to the north of some shrubs, giving them more room and light, with the result that they have branched out freely and form very handsome shrubs clothed with foliage to the ground, forming also a lovely basis for *Tropaeolum speciosum*, which clambers over them. Whether your correspondent is correct in saying that the two names above represent the same shrub I cannot say, but certainly the *Berberis* that I have grown as *B. japonica* differs from that of a neighbour, who purchased his as *B. nepalensis*; and, band-some as mine is, I think his is still better.

Yalding, Kent.

C. E. F.

BULBS PLANTED IN GRASS.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—At the present season one of the most interesting and beautiful parts of the garden is that in which bulbs have been extensively planted in the grass. At one time it was generally thought that *Narcissi* were the only bulbs likely to succeed in such a position; but experience has taught us that there are many other bulbous plants which will thrive equally well. Can one imagine a more beautiful group of hardy flowers than *Narcissus* princeps with *Muscari* growing beneath it? Or do we desire anything more charming than *Narcissus stella* mingled with *Fritillaria Meleagris*? Both of these are now in flower, and have been for some time past. Then there are the May-flowering Tulips; many of these will flourish and increase rapidly in grass where the soil is moderately good. *Tulip gesneriana* major is most suitable for this purpose. I do not, however, write of the best kinds to plant, or the best combinations to be made, but rather to point out a few mistakes which have come under my notice. I believe it is generally supposed by those who have not had actual experience in grass gardening that any kind of bulbs will succeed in any position and in any class of soil. A greater mistake could not be made. For instance, to plant that fine *Narcissus* princeps on a poor sunny dry grass bank would be folly. It would, of course, flower grandly the first season, supposing good bulbs were planted; the second year a few flowers would show themselves with shortened stalks and foliage, but very few flowers would be seen afterwards.

But if these bulbs were planted on moderately good land, under the shade of trees some distance away, quite a different tale might be told. In such a situation they increase rapidly. I know that they will succeed moderately well without shade in good soil, but, nevertheless, they do far better with it. This season I counted eleven flowers from a single clump or cluster of bulbs, the result of bulbs planted four years ago; but at a distance of 50 yards, on an exposed position and in somewhat poorer soil, where the bulbs were planted at the same time and out of the same consignment, they have almost disappeared.

Crocuses, however, seem to flourish amazingly, and would do far better if it were possible to protect them from the hares. I do not know whether it is generally known that hares do not care very much for purple Crocus, but such seems to be the case; here they destroyed all the patches of yellow and white, but did very little harm to the purple flowers.

The Gardens, Cirencester House.

T. A.

AGAPANTHUS UMBELLATUS ALBUS.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—I observe with interest what Mr. Peter Barr has to say about *Agapanthus albus*. Seeing, however, that this plant has received the most generous treatment at the hands of Mr. Dugmore and many others, I fear it would not respond so readily as is the case with the blue one. As a matter of fact, as I have already stated, when this plant first came into my hands I treated it much in the same way as I did the ordinary blue *Agapanthus*, certainly giving it quite as generous, perhaps more generous, treatment. Taking Mr. Barr's advice, however, I will put one of the plants here to the test and give it the benefit of a good-sized tub and ample liquid manure, and all being well will report the results in due time. It is quite worth while to spend some care and trouble in discovering a remedy for the shy flowering of this beautiful plant, and if this should prove to be conveyed in Mr. Barr's hint certainly no one will grudge it ample food and attention.

The Gardens, Cirencester House.

T. ARNOLD.

GROWING THE BLUE WATER LILIES.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—I see a question asked under this head in THE GARDEN for April 5 which I had overlooked until now, and if not too late my experience may be useful to "A. B. W." The system he suggests, of introducing the water itself from the boiler into the hot pond and drawing it off at the other end, is precisely that which I adopted, for the reason he suggests—viz., to gain circulation—in spite of it not being the accepted method, and I have never had any reason to regret it. The constant circulation has prevented the pond ever becoming stagnant, and I have never been troubled with any scum on the top, as I believe my friend Mr. Hudson, who uses the other system, has. I think the fact that the water is constantly passing through the boiler itself is beneficial in destroying the germs of many vegetable growths which tend to make the water impure, while I have never found it detrimental to *Nymphaeas* or *Nelumbiums*, the former growing freely all over the bottom from seed.

My pond is in the open air, entirely unprotected winter and summer, and surrounded with all natural growths of reeds and grasses, and I believe at present I hold the record for having made the *Nelumbium speciosum* fully develop and expand its flowers in the open air, though I know two or more gardeners have attempted to do this. *Nelumbiums* being deciduous are perfectly happy at the bottom of the pond when the top is covered with ice, for I never heat in winter, and I always preserve a few seedlings of the *Nymphaeas* in Orchid pots in a hot house, and plant them out at the beginning of April. Some of my blue *Nymphaeas* are now (May 17) in bloom, and I do not think anyone would care to flower them before May.

Of course if my system of free circulation of water is adopted the pond should be more or less oval in form to avoid corners such as are in any square tank, and which always tend towards stagnation. Also the boiling water should be led the whole length of the pond in a pipe—mine is copper—and discharged at the furthest point from the boiler. Thus the pipe helps to heat the water throughout the whole length, and at the same time the water in the pipe is slightly lowered in temperature so as not to be discharged at boiling point. I like my pond to remain at between 80° and 90° Fahr., but it has not unfrequently gone up far above 100°, and when it has

done this it generally proved fatal to the fish, but always improved the Lilies and Lotus. As I have employed my system for some years I think I may claim that it has had sufficient trial to warrant its being recommended.

H. R. DUGMORE.

The Mount, Parkstone.

MISCELLANEOUS.

AN ANCIENT OLIVE.

ALL who are in true sympathy with the noblest aspects of tree life, and who have wandered among some of the old Olives of the Mediterranean regions, will remember them as among the most impressive of living things. Whether among the hillside groves of these sunny shores of southern France so well known of English folk, or among the still grander examples in the beautiful island Corfu, or among the gorges of Algeria guarding the tombs of holy men, the old Olive is a tree of remarkable beauty. Its hollow trunk, worn into a cluster of rugged pillars that at first sight look so old that one thinks they must be on the verge of decay, is really full of vitality, for on looking upward one sees grand young growths full of vigorous life flung aloft and abroad with that wonderful grace that can scarcely be matched by any other tree. Grandeur of venerable age, beauty of young strength, silvery daintiness of grey bark, consummate grace of branch and twig, and lovely disposition and form of leaf are all qualities that may be claimed by the matchless Olive, and all this with the sober restraint of colouring that gives it its own distinctive grace of refined modesty.

EARLY-FLOWERING CHRYSANTHEMUM MR. SELBY AND ITS SPORT MRS. E. STACEY.

THESE are pretty Pompon varieties for the border. The former is well known. In the trial of early Chrysanthemums at the Royal Horticultural Society's Gardens, Chiswick, in 1897, the committee awarded the parent plant $\times \times \times$ on September 17. The flowers are of a pleasing shade of rosy pink, and the plant, which is very bushy and of compact habit, is also very free flowering; its height is about 18 inches. The sport—Mrs. E. Stacey—I believe originated with Mr. Wells at Redhill. It deserves extended culture, as it has all the good qualities of the parent. The colour of the sport may be described as deep apricot, a shade little represented. It was well shown at the Tamworth early-flowering Chrysanthemum exhibition last autumn. When planted in groups of a dozen plants the effect in a large border is distinctly good. Small plants placed in their flowering quarters at this period should develop into capital specimens by the middle of September next.

D. B. C.

THE HISTORY OF THE VINE.

THERE would seem to be no doubt but that the history of the Vine can be traced to an earlier period than can that of most fruits, either hardy or exotic, that are now generally grown in Britain. It certainly has a most remarkable record, for even in the early Scriptures mention is frequently made of the Vine, more particularly with reference to its use for wine-making. In Palestine, and also in many European countries, its chief value lies, of course, in this. An interesting point in connexion with the mention of the Vine in the Old Testament is that it was evidently always held in the highest esteem, for we read that Vines were included in the enumeration of the blessings of the Promised Land, and, when used emblematically, the Vine tree always signified prosperity. The Vine was apparently thought well of by the



THE DOUBLE-FLOWERED SLOE (PRUNUS SPINOSA FL.-PL.).

heathens as well as by the Early Christians, for it is recorded that Bacchus was elevated to the rank of a god for the simple reason that he taught men the use to which the fruit of the Vine might be put.

Philips, in his "Pomarium Britannicum," records several different ways in which Bacchus was represented; generally it was as crowned with the Vine, and, according to Pliny, Bacchus was the first who ever wore a crown. He has been represented as an infant holding a cluster of Grapes with a horn, and has often been depicted as an old man, whose head was encircled with the Vine, to teach us that wine taken immoderately will enervate us, consume our health, and render us loquacious and childish, like old men.

The Vine is found growing wild in the temperate regions of Western Asia and Southern Europe, and is usually supposed to be a native of Southern Asia Minor. "De Candolle, in 'L'Origine des Plantes Cultivées,' says of the Grape Vine that it grows there with the luxuriant wildness of a tropical creeper, clinging to tall trees and producing abundant fruit without pruning or cultivation. Its dissemination by birds and other agencies must have begun very early, perhaps before the existence of man in Europe or even in Asia. Seeds of the Vine have been found in the lake dwellings of Castione, near Parma, and Vine leaves have been found in the tufa round Montpellier, probably deposited before the historical epoch. Records of the cultivation of the Grape and of the making of wine in Egypt go back 5,000 to 6,000 years" (Nicholson).

The exact period of the introduction of the Vine into this country is not known, but it is generally conceded to be about the year A.D. 10, at which time the Romans had possession of some portion of our island; the Romans, therefore, are usually credited with having been the means of introducing the Grape Vine into Britain. That the latter statement is true is, I think, not disputed, but the date is given differently by various writers. Philips thinks the date above mentioned is probably correct, as the Romans upon settling down here would naturally bring their luxuries with them as far as possible. The Phenicians are said to have planted the Vine in the isles of the Mediterranean Sea as well as in several parts of Europe and Africa, and, as we have accounts of their trading to Britain for tin, they might have planted it on the English coast also. This, however, must

remain a matter of conjecture, only further than it confirms the Vine to have been originally brought from Palestine.

Historians record wonderful examples of the Grape Vine. Strabo, who lived in the reign of Augustus, testifies that the Vines of Margiana were so big that two men could scarcely compass them with their arms, and that they produced bunches of Grapes two cubits or a yard in length. Theophrastus mentions a Vine that grew so large that a statue of Jupiter and the columns in Juno's temple were made of it. Pliny says that Vines in old times were, on account of their size, ranked amongst trees, and Valerianus Cornelius mentions a Vine of one stock that encompassed and surrounded a good farmhouse with its branches. Pliny also records a Vine that was 600 years old, and Miller says that the vineyards in some parts of Italy hold good above 300 years. A. P. H.

THE DOUBLE-FLOWERED SLOE.

THE common *Prunus spinosa* of our hedgerows is a familiar plant, for in spring it is one of the earliest and most free flowering of British shrubs, and is a very conspicuous object by reason of its myriads of pure white blossoms; in autumn it is again brought forcibly to notice on account of its small, glossy black fruits. The double-flowered form is, however, by no means common, though it is one of the prettiest of the early-flowering Plums. At Kew there are several specimens near the Temperate house, and they never fail to give a good account of themselves during late March and early April. It is dwarfer and sturdier than the type, the branches being rigid, and often armed with spine-like shoots. The flowers are pure white and barely half an inch across, their size, however, being fully compensated for by their profusion. It is useful alike for beds, isolated specimens, and shrubbery groups. Some difficulty is experienced in its propagation, the best method being to graft on stocks of the type either near the ground to form bushes or on stems several feet high for standards.

W. DALLIMORE.

GARDENING OF THE WEEK.

INDOOR GARDEN.

CHINESE PRIMULAS.

SEEDLINGS which are ready should be transferred to well-drained, clean, and perfectly dry small pots. The soil for this potting should consist of fibrous loam and leaf-mould in equal parts, with some charcoal and sand. A position in a close, warm pit should be afforded them. Let the plants be sprinkled with soft water morning and evening until the roots take hold, after which more air may be gradually given. Endeavour to grow them as hardily as possible. Water with care, shade, and keep them near the glass. A thick or permanent shading is most injurious to these plants. To provide a succession, another sowing should be made, following the method I advised last month.

CINERARIAS.

As the seedling plants begin to make their second leaves they should be placed in small pots and have the same treatment as advised for Primulas. They delight in a moist atmosphere and a cool bottom, so may be placed on a bed of coal ashes. For succession sow again.

CALLAS.

I would advise those who require large plants and big blooms to plant out in trenches, choosing a sunny position in the garden. The trenches should be filled with about 9 inches of well-rotten manure and loam in equal parts. Old loam, in which Melons or Cucumbers have been growing, will suit them well. On a cold soil the trenches may be less deep than on a light one. Break up the stools and plant the tubers singly. Place a stick to each plant and tie the leaves, as it is advisable to keep the old foliage as long as possible in order to help root action. Water sparingly until this begins; when the young growth is perceptible water may be given more abundantly. Plants required for small pots may be gradually dried off and laid on their sides to ripen. Calla Little Gem should be kept in pots; if planted out in rich soil it soon loses its dwarf habit and small spathes.

SOLANUMS.

The berried varieties that have been hardened off should be planted out of doors (in the southern districts at least), choosing an open, sunny position, and afford water when planted. Syringe frequently if bright weather should follow. If the plants are kept growing without a check and receive generous treatment red spider will not attack the foliage. *Salvia splendens* and allied *Salvias* may also be planted out and have the same treatment afforded them.

JOHN FLEMING.

Wexham Park Gardens, Slough.

THE FLOWER GARDEN.

THE "bedding out" is still the all-engrossing work in the flower garden at the present time, and will remain so in many parts of the country for the next week or two. Dahlias, Begonias, Heliotropes, Petunias, &c., if carefully hardened off, should take no harm if planted out now. Plants for imparting

SUB-TROPICAL EFFECTS

to the flower garden are usually left to the last. Among these there are now to be had plants which are of floral as well as foliage value, as the Cannas, Solanums, and *Nicotiana glauca*, and such plants are to be preferred to those which have only large leaves to commend them. Sub-tropical plants when well grown and their associations well chosen add interest and variety to the ordinary garden. Similar effects may often be obtained in large shrubbery borders without much trouble or expense by planting groups of such plants as *Rheum palmatum*, *Polygonum sachalinense*, *Eryngium bromeliifolium*, *Silphium laciniatum*, and the *Cannabis*. *Ailanthus glandulosa*

when pruned to the ground each season also makes a good substitute for some of the more tender sub-tropical plants.

No sooner are summer bedding plants put into their flowering quarters than it is almost necessary to make preparations for their successors. There is all the more reason for this when such plants as Ten-week Stocks, Asters, Antirrhinums, Poppies, and the more evanescent kinds of annuals are used either in beds or borders, and it is always well, where practicable, to have plants ready to succeed these as soon as they begin to look shabby. Of late years the various forms of *Celosias* have been much used for this purpose, and when well cultivated and of a good strain they make a brilliant display as soon as they are put out. Where Begonias, Fuchsias, and summer-flowering Chrysanthemums do not otherwise make a feature in the bedding out arrangements, these come in well for succeeding such early flowering plants as those just alluded to.

HUGH A. PETTIGREW.

The Gardens, St. Fagan's Castle.

ORCHIDS.

Cœlogyne dayana (the Garland Orchid).—Among the numerous species of this genus there are few more attractive than *C. dayana*. The flowers, which are not showy individually, are borne on long pendulous inflorescences, forty or more being produced when the plants are well cultivated. It blooms at this season, and from the centre of the young growths; to be seen most effectively the smaller plants are best suspended, and the larger specimens placed on pedestals. *Cœlogyne dayana*, being a native of Borneo, requires a stove temperature, a moist atmosphere, and a somewhat shaded position; an abundance of water should be given to the roots when the plant is in full growth, and when resting a moderate supply is needed or the pseudobulbs quickly shrivel. After the flowers have been cut any necessary repotting, &c., should be done. Good fibrous peat and sphagnum moss in equal parts form the most suitable compost, and not too much should be placed about the roots.

BULBOPHYLLUMS.

A genus of epiphytal Orchids, the flowers of which are, generally speaking, more curious than beautiful, most of the species being of botanical interest only. The structural peculiarity of some of the flowers when seen under a powerful magnifying glass is remarkable in the extreme. The majority are not difficult to cultivate, and, being dwarf and compact, require but little space. *Bulbophyllum lobbi*, *B. barbigerrum*, *B. dayanum*, and others of similar habit are best grown in pans or baskets suspended. The remarkable *B. grandiflorum*, owing to its greater length of rhizome and freedom of growth, is best grown on pieces of wood. They thrive well in a shaded position in the stove with such plants as *Miltonia Roezlii*, *Bolles*, &c., or with the warm growing *Cypripediums*. Any necessary repotting or top-dressing should be done when the plants commence to grow, using as compost equal parts of peat and sphagnum moss. Plenty of water is needed when growing, and at no time should they be allowed to shrivel.

CIRRHOPELALUMS.

C. appendiculatum, *C. picturatum*, *C. ornatisimum*, *C. refractum*, *C. Cumingii*, *C. Medusa*, and others of this genus have, like the *Bulbophyllums*, very peculiarly constructed flowers. Most *Cirrhopetalums* are compact in growth, and are best grown in pans or baskets suspended. The same treatment suits these as that recommended for *Bulbophyllums*.

CATASETUMS.

These are a genus of Central American epiphytal Orchids, whose flowers are very interesting. They cannot be said to be favourites with Orchid growers, though they are well represented in some collections. *C. Bungei*, *C. callosum*, *C. macrocarpum*, *C. christyanum*, and others are worth a place in every collection, and when well cultivated they seldom fail to give pleasure. On account of

their manner of flowering they are best grown in baskets in peat and sphagnum moss, suspended at the warmest part of the Cattleya house. When growth commences transfer to larger receptacles if necessary; water sparingly until they have rooted in the new material and the growths are well advanced. Do not allow them to become dry at the root until growth has finished. They have a long period of rest, and during that time but little water is needed, sufficient only to prevent the bulbs from shrivelling too much.

CYCNOCHES.

The name of the Swan's-neck Orchid has been given to members of this genus by reason of the long slender arching column of many of the flowers. The spikes are produced from near the apex of the pseudo-bulb. *Cycnoches chlorochilon* is one of the most interesting and the most generally cultivated. It thrives well in the warmest part of the Cattleya house in pots, pans, or baskets. In other particulars they should have the same treatment as recommended for *Catasetum*. Being subject to thrips, they must be watched and frequently sponged with some insecticide.

F. W. THURGOOD.

Rosslyn Gardens, Stamford Hill, N.

THE KITCHEN GARDEN.

ASPARAGUS.

BEDS will now be in full bearing, and the quality of the heads will be much improved if time can be found to thoroughly drench the roots with farmyard liquid, and during showery weather give slight dressings of artificial manure. The heads should be carefully cut each day, leaving the weakest growths to mature regularly all over the beds. By so doing a better crop will be ensured next year. Keep the beds quite free from weeds by hand weeding.

BROAD BEANS.

Pinch out the tops of these immediately sufficient flowers show for a good crop, and support the growths by driving in a few stakes each side of the rows, and stretch strings along them. Should black aphid appear, as they are almost sure to do, especially on the later crops, thoroughly syringe with soft soap and water well mixed—a sure and safe remedy. Make one or two more sowings. Broad Windsor is much the best for this season. These will do much better, especially on dry, shallow soils, if trenches are prepared, filling nearly full with half-decayed farmyard manure, and adding sufficient soil to give the seeds a start, as these will require to be well watered should a dry time be in store.

FRENCH BEANS.

Those sown earlier in the month and which are pushing through the ground will need protecting should there be any sign of frost, but this crop will well repay the little extra care and trouble incurred. Continue to make small sowings on good ground every fortnight. In many places these are preferred to Scarlet Runners, and where this is the case a row or two of the climbing French Bean should certainly be grown. These will continue to bear for a considerable time, providing the pods are kept picked and the roots are well supplied with moisture.

POTATOES.

The earliest plantings will now be above ground. Hoe between the rows to keep down weeds, protect the young growths by moulding well up, and apply long litter or other protecting material when necessary.

TOMATOES.

Plants in full bearing, and especially those growing in pots, will need much feeding. Cut off the fruits immediately they are coloured to prevent cracking. These will keep a long time if placed on a soft bottom, such as wood wool, in a dry room.

SUCCESSIONAL PLANTS.

No difficulty should be found in setting plenty of fruit if a free current of air is allowed them when in bloom. Pot on later plants, and keep them near the glass to promote a short-jointed

stocky growth. Make another sowing at the end of the month for late autumn supplies. Plants which are intended for outside culture ought now to be in a forward condition, and should be gradually hardened off. It is useless to put out small late plants and expect them to ripen good crops of fruit without the aid of glass.

SPINACH.

Make frequent sowings of some of the broad-leaved long-standing varieties, which are a great improvement on the older kinds. Sow at this season on a north border or the coolest part of the garden on well-manured and deeply-worked soil. Make a small sowing of New Zealand Spinach on a south border at once, unless it has been grown in boxes and raised under glass as previously advised, which is much the best way of treating this valuable vegetable. This variety being very tender should not be planted till quite the end of the month on a warm spot. Sprinkle overhead frequently to give it a good start.

E. BECKETT.

Aldenham House Gardens, Elstree, Herts.

FRUIT GARDEN.

EARLY MUSCAT VINES.

VINES that were started early enough for the Grapes to have now passed their stoning period should be induced to highly finish their fruits, an achievement deservedly considered to be a credit to the grower. A night temperature of 70° should be maintained, as well as a correspondingly warm day temperature. Young growths should be stopped so that the bunches are not unduly shaded, but although bright light is necessary to produce good colour, yet in some houses the foliage of this Vine is apt to scald from the effects of powerful sunshine, so that a slight shading of fish netting should be used. Keep the borders moist, and the Vines properly assisted with nourishing liquid manures or top-dressings of artificial compounds. When the Grapes commence to colour keep a more or less constant movement of warm moderately dry air through the house.

PLANTING SPRING-RAISED VINES.

Directions have already been given for the making of borders, which, if attended to, will by this time have become warmed and in a suitable condition generally to receive Vines raised from eyes early in the year. Whether raised in pots or upon turves of soil, Vines of this description must not have their roots disturbed more than is necessary in removing crocks, &c. In planting, press the roots firmly in the border with the hands, lightly mulching with short litter, and then moisten with tepid water. Keep a moist warm atmosphere from 60° to 65° at night. Should the foliage of the Vines flag during the days immediately following the planting shade them slightly.

PEACHES AND NECTARINES.

Trees in successional houses bearing fruit that has passed its stoning period will require stimulative assistance in the form of liquid manure or artificial compounds in order to enable them to develop their crops satisfactorily. The supplies must be regulated according to the demands, which can be best ascertained by the growth of the trees, and this to the experienced cultivator is a ready indicator of the state of the borders. Excessive supplies of water or of stimulants, however, are liable to cause stone splitting, while on the other hand the benefit of supplying needful manures will be increased (by preventing rapid evaporation) if the borders are lightly mulched. If it is found that the young growths in any portions of the trees have been too thickly trained the evil should be at once rectified, at the same time the fruit might be fully exposed to the sun in order to improve its colour.

LATER HOUSES,

in which the fruit is nearing the stoning time, must not be unduly hastened, for this is injurious both to this crop and the young wood that will bear next season's fruit. A temperature of 55° at night and 60° to 65° by day will be safe. If the fruit has not been finally thinned it should be

attended to. If the wood was satisfactorily matured, and routine work is carefully and properly carried out there need be no fear of fruit dropping. Moreover, it should be borne in mind that delaying the final necessary thinning until after the fruit has stoned is decidedly over-cropping.

WOODLICE.

These insects, if permitted to become numerous in Peach houses, as they are very likely to do if stable manure or stable litter is employed for mulching, are very destructive to the ripening fruit. I find the most effectual method of destroying them is to cut either Mangel Wurzel, Swedes, or Beetroot in halves, slightly hollow the inside, and place them with the hollow side down in the haunts of these insects. The traps should be examined every morning and the insects brushed into a vessel containing hot water.

THOS. COOMBER.

The Hendre Gardens, Monmouth.

THE TEMPLE SHOW.

ONCE again we must congratulate the Royal Horticultural Society upon an excellent display. The show opened in brilliant sunshine, but the afternoon of the first day proved showery, without, we hope, interfering seriously with the receipts. It was acknowledged on all sides that this year's show was one of the most beautiful ever held. There seemed more space, and the groups were brighter. The King and Queen showed their interest in horticulture by visiting the show on the first day, accompanied by H.R.H. Princess Victoria. Their Majesties were conducted round the tents by Sir Trevor Lawrence, Bart., the president of the society, and Captain Holford was also present.

HARDY FLOWERS.

MESSRS. WALLACE AND CO., OF COLCHESTER, showed Lilies, new and rare hardy plants, &c., in excellent quantity and quality. In the centre of their group were fine specimens of the popular L. Henryi, 10 feet high, bearing twenty to thirty flowers each. L. excelsum, a tall, graceful Lily, with large heads of nankeen-yellow flowers, was arranged in four imposing clumps, with huge pots of L. longiflorum giganteum between them. On either side of these were colonies of L. Hansonii, an orange-yellow spotted "turncap" of great garden value; L. Marhan (Martagon × Hansonii), with rich bronzy yellow flowers, heavily spotted with crimson; L. Dalhansonii (dalmaticum × Hansonii), a dark-flowered hybrid of similar parentage; the beautiful pure white L. Martagon album; L. Browni, a white trumpet Lily with chocolate anthers and reddish brown outer colouring; L. odorum, creamy white trumpet-shaped flowers of much substance; and the charming little rose-coloured L. rubellum, in excellent condition. Large pans of the pretty scarlet turncap L. tenuifolium, a slender Lily of much beauty; and a host of varieties of L. elegans, among which we noticed the highly finished flowers of Orange Queen and the dark crimson Van Houttei, together with the better types of L. umbellatum, such as L. tottenhamense grandiflorum, Cloth of Gold, &c., were grouped here and there in a setting of Funkias, Japanese Acers, and elegant grasses. The front of the group was filled with Calochorti, whilst the pretty nodding bells of the Cyclobothras were none the less pleasing. Next to these came Brodiaeas in several varieties. In addition to these we noticed blocks of Spanish Iris in several varieties and their curious brethren of the Oncocyclus and Regelia types, lupina robusta and sofarana magnifica, as two new comers, as well as the more familiar I. Vaga, I. Korolkowi, &c.

Tree Peonies, Tulips galore, including many new and rare species; Ixias, Sparaxis, Tritonias, and other light and elegant South African plants, Scillas, Camassias, and many forms of Gladiolus nanus were represented by the best of their kind.

An arrangement of hardy, Cyripediums at the head of the exhibit, in which we noted remarkably fine C. spectabile, C. caule, C. pubescens, C. montanum, and others rare and good.

MR. AMOS PERRY, HARDY PLANT FARM, WINCHMORE HILL, LONDON, had a delightful and interesting display. He showed some imposing groups of the double Welsh Poppy (Meconopsis cambrica plena), Lithospermum canescens, twenty finespikes of Eremurus himalaicus, and robustus, flowers of Nymphaea Marliacea rosea, Aponogeton distachyon, and several other pretty and interesting aquatics. Besides these were several very fine examples of the scarce Phlox pilosa, flowers of Orobis varius, Alyssum saxatile plenum, Viola pedata and vars., several well-flowering specimens of Ramondia of different sorts, the lovely Aquilegia Stuarti, and the superb new Thalictrum orientale, with its large feathery heads of white flowers; Primula luteola, Gypsophila repens monstrosa, a new plant of great merit; Erysimum barbarea plenum, some very pretty hardy Orchis; also Townsendia grandiflora, and a fine imposing patch of (Enothera speciosa rosea. Mr. Perry also had many other new and interesting plants. We shall write much fuller of the more important rare things next week. It was a delight to see the beautiful Aquilegia Stuarti so finely exhibited. No one grows this Aquilegia so well as Mr. Perry. The whole display was of great interest to lovers of hardy flowers.

MR. MAURICE PRICHARD, RIVERSLEA NURSERIES, CHRISTCHURCH, HANTS, had one of those interesting and pleasing displays we always look forward to with pleasure at the Temple show. There were such plants as the beautiful Achillea mongolica, the double white Arabis albidia, one of the most useful of recent additions to hardy plants; Cheiranthus versicolor, the rare white variety of Cytisus purpureus named albus, a fit companion for the species, which is one of the best of the trailing Brooms for the rock garden; also the pinkish coloured variety incarnatus; Eremurus himalaicus, E. elwesianus, Irises in abundance, Lupinus nutkatensis, Tree Peonies, the lovely Papaver pilosum, and the variety Prince of Orange, Daphne Cneorum, Edelweiss, Gentiana acaulis, mossy Phloxes, such as P. Nelsoni, P. canadensis, P. setacea atropurpurea, P. canadensis alba, Ranunculus speciosus, Pyrethrums Decoy, Tasso, Hamlet, and other well-known varieties; Rosa altaica, and the yellow Banksian Rose. So many interesting things were exhibited that it is impossible to mention every one, but we were charmed with the double variety of Alyssum saxatile called plenum; the white variety (alba) of Armeria maritima, Dianthus hybridus roseus, Dodecatheon Meadia and its variety album; and such Lilacs as our d'Avergne, Mme. Lemoine, and Marie Legraye; Tulipa mariana, and such Saxifrages as S. ajugifolia, S. pyrenaica, and S. tenella. It was one of the most interesting displays of the show.

MESSRS. GEORGE JACKMAN AND SON, WOKING, SURREY, exhibited a group of hardy flowers, in which the following were conspicuous. In the centre a small collection of Lilies was displayed, of which the following were noticeable: L. japonicum Colchesteri, L. Hansonii, L. Maximowiczii, L. Krameri, L. concolor, and others. These were flanked on either side by Tree Peonies and pans of such good things as Campanula Moerheimi, Trollius Orange Globe, Gillenia trifoliata, Cytisus incarnatus purpureus, Dictamnus Fraxinella alba, double purple Rocket, &c. Primula japonica in several forms was prominent. A fine bank of Incarvillea Delavayi was also shown, hardy Orchids were represented by Cyripedium spectabile, C. pubescens, C. Calceolus, C. montanum, C. caule, C. candidum, and C. californicum, also Betia hyacinthina and Orchis foliosa. In front a collection of Alpine plants was arranged, these were well represented, among many others being Lithospermum graminifolium and L. canescens, Primula capitata, Saxifraga pyrenaica, S. pyramidalis, Onosma taurica, O. pyramidalis, Dianthus alpinus, (Enothera marginata and caespitosa, Gentiana bavarica, G. acaulis, and G. verna were prominently displayed. Ramondias were represented by grand specimens of R.

pyrenaica, *R. pyrenaica alba*, and *R. serbica*. The pretty *Houstonia cerulea*, also *Oxalis enneaphylla*, *Aster alpinus*, *Morisia hypogaea*, *Cheiranthus Marshalli* and *C. alpinus superbus*, and some capital flowers of *Iris Nazarena* were among other plants shown which, although worthy of notice, are too numerous to mention individually.

Among the new plants shown we noticed *Onosma pyramidalis*, with bright scarlet flowers; *Paracargum tibeticum*, a new introduction from Tibet, with numerous clear blue flowers; *Celsia pontica*, with whitish leaves and pure white flowers; *Verbascum Linkii*, with lilac-purple flowers; *Incarvillea grandiflora*, a deep crimson with a beautiful clear white and yellow throat; *Oenothera coespitosa*, having large pure white fragrant flowers; *Iris coreana*, dark blue; *Rhazya orientalis*, with flowers of a pale cerulean blue.

MESSRS. BARR AND SONS, COVENT GARDEN, had a glorious show. There were Darwin Tulips in abundance, including Clara Butt, a lovely variety, soft and clear rose-pink; The Sultan, maroon-black; Pride of Haarlem, cerise, a flower of enormous size; and Mme. Krelage, a charming flower, soft cerise, shaded with a lighter tone, whilst we also noticed many beautiful Cottage Tulips, including a handsome bunch of Mrs. Moon, the richest in colour of all the self-yellow Tulips; Picotee, viridiflora, Bouton d'Or, and La Merveille, a gem of its race, elegant and distinct, in colour orange, shot with red, a charming shade, and the flowers are deliciously scented.

English Tulips included the handsome bizarre forms of Dr. Hardy, ground deep gold, flamed and feathered, scarlet flowers of great substance; Sam Barlow, a handsome new bazarre, &c.; roses Mabel, Kate Connor, &c., also many fine forms of byblosiens, Talisman being exceptionally fine. Among the Tulipa species was the charming soft primrose-coloured Batalini, which should have a place in every rock garden; it grows 6 inches to 9 inches high, is a free bloomer, and very hardy, coming up year after year—never lift this species—also the beautifully coloured T. ostrowskyana. Large bowls of the St. Brigid Anemone were exceptionally fine, the flowers large, and the colours very rich, including glowing crimson, whites, blues, and purples. We were also pleased to notice the Lily of the Valley Fortius strain, which has flowers of enormous size and very pure. This is the finest of all the Lilies of the Valley, but will not force; it must be grown under cold treatment. Also represented were Spanish Irises in variety.

We also noticed a beautiful exhibit of rare alpine and herbaceous flowers. The plants were tastefully displayed, and included Ramondias, Dodecatheons, Primulas, and rare Saxifragas. The new *Spirea Kneiffii* was also shown, with Trollius, alpine Phloxes, and Water Lilies, such as *Nymphaea pygmaea Helvola* and *N. Laydekeri rosea*, both gems for small basins. *Paeonia anomala* Peter Barr was also conspicuous. This is a good form with finely-cut foliage and large crimson saucer-shaped flowers; single *Paeonia arietina* Northern Glory also very fine, and many other good hardy seasonable flowers, such as Geums, &c.

MESSRS. DOBBIE AND CO., ROTHESAY, had a charming display of Pansies (Violas) in bunches, a very beautiful series, comprising such varieties as Meteor, Betha, Colleen Bawn, large white flower, with purple rays; Isolde, large, yellow, deep orange centre; Symphony, white, yellow eye, few rays of purple; Mrs. T. W. R. Johnston, deep purple, lighter upper florets, a glorious flower; Mary Robertson, yellow; Edward Mason, white, yellow eye; Princess Ida, pale lilac, very beautiful; Emma Sophia, white, yellow eye; Nellie, creamy white; Kitty Bell, lilac, almost lavender; Shamrock, soft yellow; Duchess of York, white, purple rays, yellow eye; The Means, Ada Anderson, white, broad rose margin, and an interesting collection of show Pansies in rich variety.

MESSRS. JONES AND SONS, NURSERYMEN, SHREWSBURY, had a dainty arrangement of Sweet Pea flowers—New Countess, a lovely lavender; Gorgeous, the most lovely orange and red, a beautiful flower; Lady Beaconsfield, soft buff; Emily Eckford, Prima Donna, Countess of Paris, pink;

Queen Victoria, Countess of Radnor, and also of Spanish Irises. The Sweet Peas were in dainty bunches.

MESSRS. STORRIE AND STORRIE, NURSERYMEN, DUNDEE, had a beautiful display of Auriculas and Primroses, bold handsome flowers of quaint and interesting colours. We noticed several seedlings of great merit, one in particular, a pure yellow Auricula, excellent for the garden. Messrs. Storrie also showed their albino Borecole, which has much interest: it is a variegated variety of quaint colouring.

MESSRS. R. H. BATH, LIMITED, had a big display of Tulips, gesneriana, macrospila, the Darwins, the Parrot, and many others.

TREES AND SHRUBS.

MESSRS. WILLIAM CUTBUSH AND SON, HIGHGATE, N., exhibited a remarkable display of clipped trees, for which speciality they have a wide reputation. The number and variety of shapes in which these trees can now be obtained is remarkable; almost any bird or animal, or in fact any familiar object, may now be purchased in tree form. In Messrs. Cutbush's exhibit there were about 100 trees, representing peacocks, swans, serpents, chairs, tables, balloons, ships, and many other subjects, giving one in fact a very good idea of the effect the large demand for these trees has had in increasing the variety of designs.

One of the most beautiful of all groups was that from MESSRS. FISHER, SON, AND SIBRAY, LTD., HANDSWORTH, SHEFFIELD. It was displayed near the chief entrance and attracted much attention. The arrangement was very free and beautiful. We noticed, amongst a host of good things, *Ilex Wilsoni*, a superb shrub with broad deep green leaves; masses of the rich yellow Azalea Anthony Koster; the golden *Acacia inermis* and the distinct variegated variety; a host of Japanese Maples, including the blood red leaved *atropurpureum*; *Quercus concordia*, the Golden Oak, *Betula purpurea*, *Sciadopitys verticillata*, the rare tree form of *Ivy amurensis*, and many other things too numerous to mention. An interesting and remarkable display.

In the big tent Messrs. Fisher, Son, and Sibray had a superb group of Rhododendrons in flower, conspicuous being Pink Pearl, exquisite in colour, and standards of Michael Waterer, *Caucasicum ochroleucum*, Mrs. John Waterer, Countess Fitzwilliam, &c.

MESSRS. J. CHEAL AND SONS, LOWFIELD NURSERIES, CRAWLEY, had a showy display, which included a mass of Lilacs, such as Michael Buchner, a double lilac flower; President Grevy, Marie Legraye, and Souv. de Mme. Casimir Perier; also the large-flowered *Laburnum Vossi*, *Genista scoparius andreaus*, *Spirea confusa*, a beautiful mass; *Weigela Eva Rathke*, and many other things. A bright and instructive display.

MESSRS. T. CRIPPS AND SON, TUNBRIDGE WELLS, had many rare shrubs. The Japanese Maples were exceptionally interesting, and comprised *Acer japonicum aureum*, *A. pictum aureum*, very beautiful in its leaf colouring; *A. gracilis Crippsi*, very delicate in its leaf formation, and exquisite in colour, a warm crimson; *A. polymorphum roseum*; the very rare *A. carpinifolium*, *Retinospora obtusa Crippsi*, an exceedingly graceful variety, of a beautiful golden yellow throughout the summer, and a conifer to make note of. It has already received a first-class certificate. We also noticed a golden Ivy (*Hedera Helix aurea Crippsi*), which retains its deep golden colour during the summer. We must not omit to mention another Japanese Maple (*Acer palmatum atro-sanguineum Fieldii*), which has deep blood-crimson leaves, very fine, and *A. p. tunbridgensis*. A mass of *Hydrangea hortensis* brightened the display.

MESSRS. J. VEITCH AND SONS, CHELSEA, had a graceful group of Bamboos, which, with a mass of Japanese Maples, made a very pleasing display. We noticed large masses of *Arundinaria Simoni*, *Hindsii*, *Phyllostachys Kumasaca*, and many others.

MR. JOHN RUSSELL, RICHMOND NURSERIES, RICHMOND, had a glorious group out of doors, variegated Maples, Crimson Rambler Rose, Maples

of beautiful colouring, Ivies, variegated and otherwise, *Clematis montana*, double flowered Azaleas, *Dimorphanthus mandshuricus fol. argenteis* was represented by an excellent specimen; the leaves are pale green, cut into with white, a good thing, some good *Eunonymus*, and forming altogether a delightful series.

MESSRS. W. H. ROGERS AND SON, RED LODGE NURSERY, SOUTHAMPTON, had a large group of Rhododendrons in a very showy and well-flowered display. The plants were in pots and thick with flower heads. The most conspicuous were Kate Waterer, Mrs. Holford, W. E. Gladstone, Queen, Samuel Morley, Stella, and the beautiful *Pastuousum*.

MESSRS. BARR had a large exhibit, filling a tent entirely of Japanese pigmy trees, many of them 50 to 100 years old. The Maples were very charming, many trees twenty years old growing in vases of quaint shape and form, some of the vases not more than 2 inches deep; also a fine collection of pigmy *Cupressus*, mostly the golden *C. obtusa*, and quantities of *Pinus* growing on rock.

MR. A. KNOWLES, HORSELL BIRCH NURSERY, WORKING, SURREY, sent a group of *Daphne Cneorum* major, a delightful little shrub with fragrant lilac flower clusters.

MESSRS. R. AND G. CUTHBERT, SOUTHGATE, N., had a magnificent display of Ghent and other Azaleas. The brilliant mass of colour provided by the bush plants was effectively relieved by standards, varieties of remarkable colour being represented by both. Some of the best of many lovely ones were *A. occidentalis magnifica*, cream, with a yellow mark; Ramona, small-flowered, salmon-tinted (award of merit); Anthony Koster, Purity, rustica fl. pl. II Tasso, Hugo Koster, rich apricot; Alphonse Levallee, apricot-buff; Fama, rose-buff; Byron, white; Phoebe, yellow; Prince Baudouin, orange-yellow; T. J. Seidel, fiery red and orange; and Bouquet de Flore. These and many more arranged to the very best advantage, together with plants of Lilac Mme. Lemoine, made up a brilliant exhibit.

MESSRS. J. WATERER AND SONS, LIMITED, BACHSHOT, had a splendid array of Rhododendrons, arranged with a proper regard to the colour of the flowers, and therefore most effective. In the centre that unique variety Pink Pearl was well represented by large loose bold trusses of its rich pink. Other sorts were Mrs. E. C. Stirling, a lovely pale pink flower, the truss compact; Mrs. W. Agnew, rose; Michael Waterer, intense red; Princess Mary of Cambridge, pale crimson markings on white petals; Sappho, Duchess of Edinburgh, Duchess of Connaught, Lady Helen Cathcart, a glowing cerise; John Waterer, Baroness Schröder, and Cynthia; these were perhaps the best of many good ones, all remarkable both for pure rich colouring and vigorous habit of growth.

MESSRS. JAMES VEITCH AND SONS, LIMITED, CHELSEA, displayed a most interesting lot of hardy shrubs that had the advantage of being arranged in a most attractive manner. In the centre was an excellent specimen of *Wistaria multijuga*, and hybrid Azaleas were represented by many beautiful plants in flower. For instance, *A. Betsy de Bruin*, Anthony Koster, Fama, and Rhododendrons by W. E. Gladstone, Doncaster, &c. There was a remarkably fine specimen of *Weigela Mme. Couturier*, *Alstrameria aurantiaca* was very showy; of *Eremuri* there were grand spikes of *E. himalaicus*, and the charming *E. Bungei* was well shown also. *Veronica hulkeana*, *Clematis Marcel Moser*, *Celmisia Munroi*, with large and beautiful Daisy-like flowers, *Hydrangea Mariesii*, *Paeonies*, &c., were some of the more noteworthy plants included.

ROSES.

MESSRS. WILLIAM PAUL AND SON, WALTHAM CROSS, showed a group of Roses in pots, filling the maximum space allowed (400 square feet), composed of standard, pillar or columnar, and bush plants, faced with boxes of cut flowers of attractive kinds for convenience of close inspection. The principal new kinds exhibited are the Waltham Cross varieties: Morning Glow, salmon-rose, bedding Tea Rose; Stella, decorative semi-double flower,

brilliant rose colour with white eye; Corona, a Hybrid Tea with very large and full delicate pink flowers; and the handsome Climbing Belle Siebrecht. Also the richly coloured red climbing Tea François Crousse, Souvenir de Mme. Chedane Guinoisseau (H.P.), Papa Lambert (H.T.), the wichuriana hybrids Alberic Barbier, René Anaré, May Queen, and Evergreen Gem, the multiflora Queen Alexandra, and the interesting perpetual-flowering briar Soleil d'Or, orange-yellow, suffused with red. Among the standard plants the most remarkable were Clio, Spenser, L'Idéal, White Lady, Enchantress, Marquise Litta, W. A. Richardson, and the metallic red Comtesse Festeties Hamilton. The pillar or columnar plants included fine examples of the single and cluster-flowered varieties Leuchtstern, Claire Jacquier, and Crimson Rambler, also Mrs. John Laing, Ulrich Brunner fils, Clio, Crimson Queen, and Grüss an Teplitz. The bush plants comprised symmetrically-trained specimens, among others, of La France, Aurora (H.T.), Duke of Edinburgh, Caroline Testout, Duchess of Albany, Crown Prince, Mme. Fanny de Forest, and Baroness Rothschild, while in the cut blooms were superb examples of Corallina, Queen Mab, Empress Alexandra of Russia, Tennyson, Medea, Star of Waltham, Charles Lefebvre, Solfaterre, and many others.

A charming display was made by Mr. George Mount, who showed a group of cut Roses. The exhibit was 30 feet long, and included eight boxes of superb exhibition blooms. The varieties included Mrs. John Laing, Ulrich Brunner, Captain Hayward, Caroline Testout, Niphetos, Anna Ollivier, Catherine Mermet, Maréchal Niel, and Mrs. Sharman Crawford. Between the boxes were noble blooms with stems 2 feet long (for which Mr. Mount is famous), the whole exhibit being backed up with grand plants of Crimson Rambler and variegated foliage, which produced a very unusual and pleasing effect.

Mr. Frank Cant, Baiswick Nursery, Colchester, had many boxes of superb Rose flowers. Most beautiful of all was Lady Roberts, one of the loveliest of Tea Roses, a hybrid from Anna Ollivier. The flower we have already described, and hope soon to illustrate in colour. Besides this were Clara Watson, Lady Moyra Beaulere, White Maman Cochet, a glorious box of Maréchal Niel, Niphetos, Mrs. John Laing, Mme. Ravary, Mme. Cusin, Caroline Testout, Sunrise, beautiful in colour, yellow and deep red; Liberty, deep crimson; the Austrian Copper, the lovely Alexandra, Bridesmaid, Lady Mary Fitzwilliam, Perle des Jardins, Catherine Mermet, and such exquisite climbers as Crimson Rambler, Irish Glory, Claire Jacquier, Gloire des Polyanthas, Irish Beauty, and W. A. Richardson.

MESSRS. PAUL AND SON, CHESHUNT, had one of the most beautiful groups in the show and one of the best ever staged by this firm. Many of the kinds shown were of their own raising, such as the beautiful hybrid Briar Una, the rambling Rose Electra, Wallflower, and a beautiful new seedling Tea Rambler, a lovely flower, pink in colour, and borne in profusion; Psyche and the exquisite Rose sinica Anemone, which we have described on more than one occasion, and is one of the most beautiful flowers of its kind in existence. Lovely standards of Viscountess Folkestone, the dwarf Lady Battersea, and such varieties as l'Innocence, Liberty, Robert Scott, Admiral Dewey (a white sport from Caroline Testout), J. D. Pawle, Mme. de Watteville, Ma Capucine, and Killarney.

MR. CHARLES TURNER, SLOUGH, had a splendid display of Roses which filled the end of one tent. At the back were arches covered with the Crimson Rambler, and proving very effective. The splendid bushes of pot Roses that formed the major part of the group were relieved by standards of Mme. de Watteville, Caroline Testout, S. de Eugene Verdier, and others. The dwarf plants were of Crimson Rambler, Perle d'Or, Juno, Celine Forestier, Mrs. J. Laing, Antoine Rivoire, &c. At either end of the Roses was a group of Malmaison Carnations bearing a remarkably fine lot of flowers.

MESSRS. BENJAMIN CANT AND SONS, OLD ROSE

GARDENS, COLCHESTER, had a brilliant display of Roses in pots, both dwarfs and standards. The latter included such good things as Mrs. Sharman Crawford, Anna Ollivier, Marie Van Houtte, and Merveille de Lyon; and of the former there were Fisher Holmes, Ben Cant, a splendid new seedling Hybrid Perpetual, of a dark velvety crimson colour; Leonie Lamesch, La France, Mrs. J. Laing, Dundee Rambler, Mme. Hoste, Souvenir d'un Ami, Ulrich Brunner, and many more were splendidly shown by Mr. Cant.

ORCHIDS.

MESSRS. CHARLESWORTH AND CO., HEATON, BRADFORD, YORKS, displayed a magnificent collection of Orchids, which included a number of exceedingly choice plants. The exhibit was tastefully and carefully arranged, the flowers of each plant showing to the best advantage. We can only mention a few of the many good things in Messrs. Charlesworth's exhibit, and they are but representative of many more of equal beauty. Odontoglossums were splendidly represented, and perhaps the finest one was *O. Pescatorei* Charlesworthii. This is a remarkably heavily spotted form, with flowers almost as large as a good sized *crispum*, quite the best *Pescatorei* we have seen. Another very fine *Odontoglossum* was *O. crispum* Calypso; the white petals are marked with deep red blotches of extraordinary size, and in form the flower is all that one could wish. *O. crispum* Gladys is also a flower of the highest merit, with large red blotches on a white ground. Other *Odontoglossums* worthy of special note were *O. Hallii* Heatonense, *O. elegantius*, and of hybrid *Lælio-Cattleyas* we noticed such good things as *L.-C. hyeana splendens*, a richly coloured form of this fine hybrid; *L.-C. Digbyano-Mendelii*, *L.-C. G. S. Ball* in several forms, one of which was noticeably good and distinct; a splendid specimen plant of *L.-C. Major-General Baden Powell* bearing three strong spikes of flowers; *Lælia* Helen (*L. tenebrosa* × *Brassavola digbyana*) is a new and attractive hybrid that was included. Some wonderfully well flowered plants of *Oncidium marshallianum* gave a touch of rich colouring to Messrs. Charlesworth's group, and *O. varicosum* Charlesworthii, a flower with a very large yellow lip; *O. marshallianum* sulphureum were noticeable also. Besides a number of *Odontoglossums* representing Messrs. Charlesworth's type of *O. crispum*, there were many other Orchids of beauty and rarity, notably *Cypripedium callosum* Sandere, *C. Argus* Distinction, *C. Lilian* Greenwood, *C. leopardinum*, *C. Lawrebel*, *Trichopilia suavis* alba, *Cattleya Mossiae* reineckiana, and several selected forms of *Lælia purpurata*, conspicuous being *L. p. Sunray*.

MESSRS. STANLEY, ASHTON AND CO., SOUTHGATE, LONDON, N., arranged a collection of Orchids remarkable alike for the variety of choice plants included and also for its extent. The specimens of *Cattleya Mossiae* were alone worth a journey to see; they included many magnificent and highly coloured varieties. Notably good were *C. M. Wagerii*, *C. M. Pax*, a new white form; *C. M. Aurora*, with a mass of gold in the lip; and *C. M. Marguerite*. If Messrs. Stanley, Ashton and Co. had exhibited nothing besides the group of *Cattleya Mossiae* this alone would have deserved the medal awarded; but there were many other choice things also, for instance *Miltonia bleuana*, *M. radiata* Chelsoni, the finest form we have yet seen, two *Lælio-Cattleyas* of the highest merit, *L.-C. canhamiana* alba Stanleyi, *L.-C. canhamiana*, *L.-C. massangeana*, a magnificent form of *Odontoglossum crispum*, viz., *O. c. virginialis*, &c. *Odontoglossums* were largely and excellently represented in this collection, some grand varieties of *O. crispum* were included, as well as many choice forms of *O. Adriane*; *O. elegans* var. *superbissima*, a lovely flower, was also shown. These were some of the more remarkable Orchids in Messrs. Stanley, Ashton and Co.'s extensive collection.

MR. JAMES CYPHER, ORCHID GROWER, CHELTENHAM, exhibited a most attractive display of Orchids in excellent variety. In the centre of the group were boldly arranged *Oncidiums*,

making a bright and rich mass of colour. *O. marshallianum*, *O. concolor*, and others were largely made use of. On either side of the *Oncidiums* was a group of *Odontoglossums* in great variety, the plants being exceedingly well flowered. Some very good varieties of *O. crispum*, *O. Hallii*, *O. polyxanthum*, *O. Pescatorei*, and many others were included. Then came smaller groups of *Miltonia* vexillaria arranged with excellent effect. Of other good plants contained in Mr. Cypher's group we especially remarked several particularly fine *Lælia purpurata*, *Cattleya Mossiae*, *C. Mendelii*, *Dendrobium nobile*, and *D. thyrsiflorum*, both flowering with remarkable freedom; the handsome *Cypripedium Gowerii* magnificum, the dainty *C. niveum*, *C. rothschildianum*, *C. grande atratum*, and *C. lawrenceanum*. Of *Thunias* there were *T. Marshalliae*, *T. Veitchii*, and *Vanda teres* was splendidly shown, as also was the beautiful garland Orchid *Ceologyne dayana*, *Palms*, *Ferns*, *Asparagus*, and other green foliage were effectively and tastefully used by Mr. Cypher in the arrangement of his most creditable display.

MESSRS. SANDER AND SONS, ST. ALBANS, had a glorious display, filling a considerable portion of the centre of the large tent. The grouping was very beautiful, the background being arranged with *Palms* and *Cymbidiums*, and there was a splendid series of *Odontoglossum crispum*, which attracted much attention. *Cattleya Mendelii* was represented by many superb varieties, and amongst other notable Orchids were *Lælia purpurata*, *L. pulcherrima*, *Masdevallia* in variety; *Odontoglossum citrosium*, *Miltonia bleuana*, *Cattleya Mossiae* alba celestis, *Odontoglossum Harryano* crispum, *Phalenopsis intermedia* Portei, *Cypripedium Annie Measures*, *Brasso-Cattleya* Empress of Russia, *Lælia Emeline*, *Cypripedium schofieldianum* var. *O. crispum* (yellow lipped), *C. rothschildianum*, &c. These are but a few of the many remarkable flowers in this striking exhibit.

MESSRS. HUGH LOW AND CO., BUSH HILL PARK, ENFIELD, N., had a most representative group, and in it were included many good things. *Cymbidiums*, *Epidendrums*, *Oncidiums*, &c., formed the background, together with *Palms*, &c., and prominent below were *Cattleya Mendelii* Wisetonensis, *C. Skinneri* (a splendid plant), *C. Mossiae* var. in memoriam Dr. Smea, *C. M. reineckiana*, *C. intermedia* alba, some other lovely varieties of *C. Mossiae*, *Cypripedium lawrenceanum* hyeanum, *C.-L. gratixianum*, *Vanda teres* Agnes Joacquin, *Cattleya schilleriana* Regnelli, *Sobralia macrantha* alba, and *Cyp. callosum* Sanderae, from Captain J. F. Laycock, D.S.O., Wiseton Hall, Bantry, Notts.

Sir Trevor Lawrence, Bart., Burford, Dorking (Orchid grower, Mr. White) had a most interesting group of little known Orchids. There were included *Masdevallia Rushtonii*, *Brassia brachiata*, *Oncidium Carthaginense*, *Epidendrum paniculatum*, *Maxillaria præstans* (botanical certificate), *Ceologyne swaniana*, *Zygopetalum rostratum* (cultural commendation and first-class certificate), *Aspidia lunata* (botanical certificate), *Trichopilia rostrata* (award of merit), *Angræcum Maloneyii* (botanical certificate).

J. Colman, Esq., Gatton Park, Reigate (gardener, Mr. W. P. Bound), in his group exhibited some splendid *Miltonia* vexillaria and *Odontoglossums*. The *Masdevallias* also were very bright; particularly *M. Veitchii* grandiflora, *M. harryana*, and *M. H. Bull's Blood*; of the *Odontoglossums*, *O. crispum* Alexandra, *O. c. A. Mary Colman*, *O. luteo-purpureum*, and *O. andersonianum* Queen Alexandra were grand, as also were *Cattleya Mossiae* gigantea, *C. Schroderae*, *Cymbidiums*, and *Cypripediums*.

In the group shown by F. Wellesley, Esq., Woking, *Cypripedium Godefroyae* leucochilum, *C. G. I. pulchellum*, *C. bellatulum*, *C. niveum*, *C. callosum* Sanderae were particularly beautiful, and *Platyclinis* sp., *Miltonia bleuana* Our Queen, *Lælia purpurata*, *Cattleya schilleriana*, and *Brassia brachiata* were all worthy of special note.

Sir Frederick Wigan, Bart., East Sheen (Orchid grower, Mr. W. H. Young), had a magnificent lot of Orchids, wherein were noticeable excellent plants of *Lælia purpurata*, *Lælio-Cattleya* high-

buryensis, *Lælia digbyana*, *Odontoglossum citrosimum*, *O. Rolfe*, *Phalenopsis sanderiana* Wigan's variety (first-class certificate), *Cattleya intermedia alba*, *Cypripedium lawrenceanum* hyeanum, *Miltonia vexillaria* varieties, *Phalenopsis grandiflora*, *Thunia Marshalliae*, &c.

J. Rutherford, Esq., M.P., Beardwood, Blackburn, had a lovely bank of *Cattleya Mossie*, *Odontoglossum Queen Alexandra*, *Cypripedium Annie Measures*, and many more of equal beauty.

W. P. Burkiashaw, Esq., Hesse, Hull, had a representative group, comprising *Cattleya Mossie*, *reineckiana*, *Odontoglossum crispum* var. *Nantholes*, *Miltonia vexillaria*, *Lælia tenebrosa*, *Renanthra inshootiana*, and others.

Mr. A. A. Peeters, Brussels, sent several lovely *Odontoglossums*, viz., *O. crispum* var. *virginialis*, *O. c. var. Peetersi*, *O. c. var. Mrs. F. Peeters*.

M.M. LINDEN ET CIE, BRUSSELS, had some splendidly marked forms of *Odontoglossums*, included being *O. Adriane* var. *ornatum*, *O. crispum* *Enchantress*, *O. c. bellatulum*, *O. c. dilectum*, *O. picturatum*, *O. Adriane* var. *Suave*, and *O. wilkeanum Imperatorum*. (First-class certificate.)

MR. JOHN COWAN, GATEACRE NURSERIES, LIVERPOOL, in an excellent group, displayed *Cattleyas Mossie*, *Mendellii*, *Oncidiums*, *Odontoglossum triumphans latiseptum anreum*, *Cypripedium elliotianum*, splendid varieties of *O. crispum*, *Cypripedium Charles Richman*, *Miltonias*, &c.

MR. B. S. WILLIAMS, UPPER HOLLOWAY, N., also showed Orchids in great and excellent variety. *Oncidium marshallianum*, *Lælia purpurata*, *Cattleya Mossie*, *Cattleya Warneri*, *Cypripedium lebaudyanum*, *Platylois latifolia*, and *Lælio-Cattleya cinnabarosa*. Some very good *Odontoglossums* were noticeable.

MR. JOHN ROBSON, BOWDON NURSERIES, ALTRINCHAM, had a small group of Orchids that contained *Cymbidium concolor*, *Lælia purpurata*, *Cattleya Mossie*, *Odontoglossums*, and *Oncidiums* in very good form.

MR. CHAS. VUYLSTEKE, LOO CHRISTY, GHENT, BELGIUM, showed several new *Odontoglossums*, including *O. recens*, *O. bellatulum*, *O. Adriane*, *O. wilkeanum* var., and *O. crispum* varieties.

MESSRS. JANSSENS AND G. PUTZEYS, MERCEIN, ANTWERP, showed *Cattleya Mendellii palidosa* (a beautiful flower) and *C. Mendellii Perfection*.

Mr. J. Wilson Potter, Elmwood, Park Hill Road, Croydon, sent *O. crispum* Lady Jane.

Mr. Kromer, Bandon Hill, Croydon, showed *Cattleya intermedia* Aquiei.

M. H. Claes, 63, Rue des Champs, Brussels, showed some beautifully spotted *Odontoglossums*, notably *O. Adriane*, *O. A. Picador*, *O. crispum* Pax, *O. A. Toreador*, *O. c. aureum etterbeekense*, and *O. c. Esquire*.

FRUIT.

MESSRS. GEORGE BUNYARD AND CO., THE NURSERIES, MAIDSTONE, exhibited a display of hardy fruit that demonstrated very efficiently the high perfection to which British Apples can be grown and preserved if only the right methods are employed. The fruits were as sound as one could wish, and, in fact, in general appearance gave but little indication of the lateness of the Apple season. In this remarkable collection there were altogether some ninety different varieties, so that of late-keeping Apples there is evidently no lack. Some of the dishes of dessert Apples were Norman's Pippin, King of Tompkins' County, Cox's Orange Pippin, Sturmer Pippin, Winter Peach, Allen's Everlasting, and Reinette du Canada. Conspicuously good amongst the kitchen varieties were Annie Elizabeth, Calville Rouge, Hornead's Pearmain, Bismarck, Lane's Prince Albert, Belle de Pontoise, Wagener, Sanspareil, Royal Late Cooking, Afriston, and Newton Wonder, whilst of stewing Pears there were handsome specimens of Belle des Arbres, Uvedale's St. Germain, and Catillac. Messrs. Bunyard's display of Apples was backed by finely-grown and well-fruited pot trees of Peaches and Cherries.

MESSRS. THOMAS RIVERS AND SON, THE NURSERIES, SAWBRIDGEWORTH, HERTS, filled a

space of 300 feet in the large tent with a group of fruit trees in pots, comprising about thirty trees. Messrs. Rivers' display of pot fruit trees is so well known that much description is unnecessary. We can say, however, that we have never seen them better than this season, nor in greater variety. Most prominent in the group were the Cardinal and Early Rivers' Nectarines, the two earliest varieties of this delicious fruit. Peaches Hale's Early and Early Rivers', as well as trees of May Duke Cherry were included. Messrs. Rivers also exhibited pot trees of their three new early Peaches, viz., Duchess of Cornwall, Duke of York, and Prince Edward. Peach Duchess of Cornwall, which received an award of merit from the Royal Horticultural Society in 1901, is of pale colour, rather small, but of excellent flavour. It fruits and forces well. Peach Duke of York is a highly coloured fruit of splendid flavour, and the variety is well adapted for forcing. It received the Royal Horticultural Society's award of merit on May 20 last. The parents of this new Peach were the Early Rivers' Nectarine and Peach Alexander. The trees were all well laden with fruit, yet in pots varying from 11 inches to 15 inches in diameter. Baskets containing splendid examples of Early Rivers' and Cardinal Nectarines completed this unique display.

Pantia Ralli, Esq., Ashted Park, Epsom (gardener, Mr. J. Hunt), exhibited a decorative table of fruit. In the centre was a stand of Grapes, Melons, and Strawberries, and on the table were very good fruits of Melon Sutton's Ring-leader, The Countess, Royal Favourite; Strawberry Royal Sovereign; Peach Early Grosse Mignonne, and Apples.

Mr. A. J. Harwood, Asparagus grower, Colchester, sent some very good bunches of Asparagus.

Mr. W. Godfrey, Colchester, also showed remarkably fine bunches of Asparagus.

VEGETABLES.

Messrs. Cannell and Sons, Swanley, Kent, showed a collection of vegetables, which included their new Cabbage Cannell's Defiance; Potatoes Lord Roberts, Pride of Tonbridge, and Harbinger; Champion Leek; Cannell's Winter Carrot, and Cauliflower Early Model. They also exhibited some splendid Peas growing in boxes; the plants were bearing well and looked remarkably healthy. The varieties were Eynsford Beauty, Duke of Norfolk, King Edward, and Duchess.

S. W. Searle, Esq., Sudbury Priory, Harrow (gardener, Alfred Mr. Hornby), exhibited Tomato Sutton's Perfection and Cucumber Al.

Lord Aldenham, Aldenham House, Elstree, Herts, (gardener, Mr. E. Beckett,) displayed a remarkable collection of vegetables. They were pleasingly staged, the spaces between each being filled with Parsley, which added greatly to the appearance of the exhibit. Some of the best of the many excellent specimens shown were: Asparagus Colossal, Broad Bean Leviathan (Carter's), Dwarf Bean Canadian Wonder, Dwarf Bean Ne Plus Ultra (Sutton's), Beet Pragnell's Exhibition, Broccoli Late Queen (Sutton's) and May Queen (Webb's), Cabbage Ellam's Early and Flower of Spring (Sutton's), Carrot Early Gem (Sutton's), Cauliflower Defiance (Carter's), Early Forciog (Veitch's), Cucumber Ideal Beckett, Sensation (new), and Marquis of Lorne (new), Leek Holborn Model and The Lyon, Lettuce Giant Bath Cos, Black-seeded Bath Cos, and Jumbo Cos, Marrows Perfection Luton (new) and Moore's Cream, Onion White Emperor, Giant Rocca, and Crimson Globe, Pea E. Beckett (Beckett), Early Forcing, and Early Morn. Potato Sharpe's Victor, Snowdrop. Improved Early Ashleaf, and May Queen (Sutton's), Spinach, The Carter, Tomato Duke of York, Peachblow, Golden Jubilee, Winter Beauty, Perfection (Sutton's), and Dessert, Turnip Forcing (Carter's), Early White Milan, Early Red Milan, Seakale, and Mushrooms.

All certificated plants will be fully described next week.

MISCELLANEOUS.

MESSRS. WILLIAM CUTBUSH AND SON, HIGHGATE, LONDON, N., had a remarkably fine group of miscellaneous plants in flower, arranged with much

taste. At the back were groups of the new Rose Dorothy Perkins (a charming new free flowering climber, allied to wichuriana, bearing blossoms of a soft pink) and Tree Peonies, which included several new varieties. The feature of this varied display, however, was a splendid lot of *Calla elliptica*, bearing freely their beautiful yellow spathes, and making a remarkably fine show. Smaller groups of *Carnation Cecilia* (the new yellow) and *Ghent Azaleas* in brilliant variety, some splendidly flowered *Malmaison* and border *Carnations*, &c., completed the exhibit. Noticeable among the *Malmaison* varieties were such lovely flowers as *Princess of Wales*, *Juliette*, *Calypso*, *Iolanthe*, *Lady Grimston*, *Mme. Adelina Patti*, *Prime Minister*, *Sir Charles Freemantle*, *Sir Evelyn Wood*, &c. The border varieties included *Sundridge*, *Herbert J. Cutbush*, *Fanny Wilcox*, *Germania*, *Buff Queen*, and many others. Messrs. Cutbush also exhibited a group of *Begonias*, composed chiefly of new dwarf varieties for bedding. The habit of these plants renders them especially suitable for bedding purposes. They have been named dwarf pet varieties, and amongst them we noticed *White Pet*, *Crimson Pet*, *Scarlet Pet*, *Rose Pet*, *Orange Pet*, *Carmine Pet*, *Pink Pet*, *Yellow Pet*, *Cerise Pet*, *Vermilion Pet*, *Cream Pet*. We noticed a new *Begonia*, named *Phosphorescens*, a showy double scarlet variety, and another new bedding *Begonia*, called *Eugene Verdier*, a large bright scarlet. At the back of this group were late-flowering *Tulips*, early-flowering *Glaudioli*, *Spanish Iris*, and many sorts of herbaceous plants.

MESSRS. WEBB AND SONS, STOURBRIDGE, had a splendid display. It consisted of *Calceolarias*, *Gloxinias*, and other indoor plants, and represented their finest strains of these popular flowers. The plants had been grown primarily for seeding purposes, and they well illustrated the success which this firm has achieved by cross-fertilisation and selection. The *Calceolarias* were really a magnificent lot, the plants being of vigorous habit, and carrying large and well-formed flowers in profusion and in great diversity and splendour of colouring. The *Gloxinias* also made a grand show. The plants were in 6-inch pots, and had been grown from seed sown in January. The flowers were large in size, of excellent substance, and the most beautiful colours; there were whites, spotted crimsons, and fine shades of purple. Among these varieties particularly noticeable were *Webb's Stanley* (vivid crimson), *Peerless* (white), and *Purple Queen*.

MESSRS. J. CARTER AND CO., HIGH HOLBORN, LONDON, had a glorious display, quite as fine or even finer than that of last year. Of course a feature of much interest consisted of their brilliant prize *Cinerarias*, including the beautiful *Stellata* hybrids, which have gained much popularity through their gracefulness and diversity of attractive colours. Also we noticed the prize *Calceolarias*, plants of compact growth and with solid heads of big flowers of wonderful colours, spotted and blotched, and also pure clear selfs, soft yellow, rose, and other pretty shades, while the *Empress* and double *Petunias* attracted much attention. We must thank Messrs. Carter and Co. for so consistently bringing forward the claims of the *Queen's Prize Mimulus*. The large-flowered *Mimulus* is neglected in English gardens, though why it is difficult to say. The flowers are extraordinarily showy, big petals dabbled with colour, and their quaint shape is a recommendation. It was possible to pick out a hundred shades. Of course the plants were in pots, but it must not be forgotten that the *Mimulus* is a good garden flower in half shade and in a moist place. A most varied and brilliant exhibit.

Messrs. Paul and Son, Cheshunt, showed *Tulips* in great variety; *Lilacs* *Philemon*, *Belle de Nancy*, *M. Casimir Perier*, *Mme. Lemoine*, *Alphonse Lavallée*, and a magnificent lot of cut *Rhododendron* trusses.

Messrs. Sander and Sons, St. Albans, exhibited a very pretty group of *Oranges* (*Citrus sinensis*) in pots. The small plants were loaded with their bright yellow fruits, and were very attractive. *Dimorphanthus mandshuricus foliis variegatis* and a few *Caladiums* were also sent by Messrs. Sander.

THE GARDEN

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PEACE.

PEACE on earth, and goodwill towards men." The old Christmas world-greeting fills our hearts in these lovely days of early June, and, though there is scarcely a household in England that has not been saddened—some, alas! most grievously—by the long war that has now come to an end, yet even these stricken ones will rejoice, knowing that the precious lives have not been given in vain, and that the wounds and disease that have left others almost helpless are all so many factors in the regeneration of those vast countries that have now become a part of the King's dominions.

For the future of the new colonies there is every hope, their immense areas of fertile land only awaiting skilful cultivation, while capital and enterprise will not be wanting for the further development of mineral products.

It is not within the province of *THE GARDEN* to allude more directly to the political aspects of the happy news of the week, but we may at least unite with all England at home and beyond the seas in holding out the hand of good fellowship to our late foes, now our fellow-subjects, whose best qualities we already respect and admire, and in expressing the hope that we may so work together for the prosperity of the lands of their birth under the firm but kindly rule of a better government as most truly and effectually to "heal the wounds of war."

SOUTH AFRICAN FRUIT CULTURE.

EXPORT AND LABOUR.

THE following accounts of the state of Fruit Culture and the Labour Question in Cape Colony are mainly compiled from the Government Reports, written by Mr. Eustace Pillans, which he was good enough to lend to me for the purpose.

The second article is a valuable paper by Mr. Pillans, which I have added in its entirety.

GEORGE HENSLOW.

I.—THE HISTORY OF FRUIT CULTURE AT THE CAPE.

In the report of the Agricultural Assistant, Mr. Eustace Pillans, for 1893, he observed that the department had kept in view the necessity of introducing varieties of fruit not yet spread throughout the colony. Though it would have

been better had they been introduced in the ordinary way of commerce, yet it was necessary for the Government to take the initiative, so as to induce fruit growers to substitute good sorts for the prevailing bastard seedlings.

The following were the principal items of importance for this purpose at that date:—Two cases of the best Smyrna Fig cuttings, twenty varieties of Oranges and Lemons—three hundred and fifty examples in all—were imported from Naples. A small importation of bitter Seville Oranges was made to ensure getting an immediate supply of fresh seed, the object being to raise a better stock for grafting instead of using Lemon stocks as before for that object.

A supply of pips for raising stocks for Apples, Pears, and Cherries were also secured.

On enquiring it was found that nearly all the best varieties of fruit to be found in the Covent Garden sales were already in the colony; but the orchards were not planned with the view of market production, being only, as it were, amateur gardens, containing a limited supply of one or two varieties each. This "old-fashioned, messing little way of orcharding," wrote Mr. Pillans, "must give way to orchards being measured by *morgen*, and not be a little back garden place behind a dwelling-house. By such means only can the orchardist hope to share in the fruit trade."

"The department enlisted the services of Mr. H. E. V. Pickstone, a skilled Californian orchardist, in order to give practical demonstration of the best methods of pruning fruit trees at such centres as should enable the greatest number of growers to attend and compare notes."

Since this was written the above experiment has proved the greatest success. Representative men have come from all parts during the past nine years, and 700,000 trees have been planted. In 1894 the Government planted 240 Pear, Apple, and Plum trees of pedigree sorts, and the best kinds of stone fruits; but this was only a beginning and far from being representative of all the fruit sorts suited to the western climate and to the necessities of the exporter.

From the small portion, planted at that date, large numbers of named scions were distributed for grafting and for budding.

Under the heading of "Fruit Exports" for 1894, Mr. Pillans observes that the farmers were becoming quick to recognise where their interest lay, for it was evidenced by the large extent to which certain kinds of fruit disappeared from the exported shipments, and their place taken by others which were found to be better suited for transport, and fetching better prices.

Mr. Pillans then refers to a serious drawback, viz., the pernicious custom whereby amateurs and outsiders took upon themselves to buy up job lots of fruit, pack them anyhow, and rush them on to the Covent Garden sales as "Cape Fruit," to the utter ruin of whatever

prestige the best fruits, selected and packed by the best men, may have previously gained.

Since the above was penned, at the present time, 1902, matters have improved, as it was soon found to be detrimental even to the amateur's interest; but even now this has not been quite suppressed. Mr. Pillans next calls attention to the rise of Fruit Growers' Associations in the west. As he observes, the great thing to be avoided was the dead level of a stolid conservatism and satisfaction with the old unimproved methods practised from time immemorial. Perhaps the most noteworthy sign of improvement was the growing dissatisfaction with the average Cape seedling sorts, raised haphazard, the fruit of which, although lacking all the qualities that the buyer has a right to look for, was then still being sent to market merely for what it would fetch. The miserable prices obtained for these inferior qualities failed to cure the evil, and he adds that it was more than probable that the improvement signalled in 1894 was due rather to a spirit of emulation, for which thanks were due to the associated meetings and the public exhibitions.

In his report for 1895 Mr. Pillans alludes to the results of the planting really good sorts of trees in the Government grounds. In this climate young trees blossom and fruit in the fourth or fifth year. The growth was most satisfactory. Farmers not only in Cape Colony, but in the Orange River Colony, and also in the Transvaal, began the practice of sending unknown fruits for determination. Moreover, a strong feeling was rising against the propagation of the nameless seedlings of inferior qualities, which had hitherto been so common everywhere.

He also records the fact that in 1895 there was a perceptible improvement in the stocks of fruit exhibited for sale in Cape Town, though there was not then, nor is there to-day (1902), any serious attempt to improve the *dessert forms* of Grapes. Indeed, in 1895 there was no improvement in dessert fruits other than Grapes.

Unmistakable signs of improvement were to be seen in 1895 in a few private establishments. In one, that of Messrs. Malleon and Dicey, at Hex River, 200,000 selected orchard trees were planted, and without deriving any assistance from the Government. As another instance, Mr. P. J. Cillee, of Wellington, devoted himself to the Prune industry. The trees were supplied by Mr. Pickstone, who revolutionised the old order of things and established in the Colony what did not exist before, viz., a nursery capable of dealing with the prospective fruit farm demand.

In his report for 1896 Mr. Pillans mentions that additional ground on the Government property at Constantia was planted with the best kinds of Pears.

It must be borne in mind that the climatic conditions of the Eastern side and of Natal are very different from the Western, so that Mr. Pillans wisely called the attention of the



MESSRS. CUTBUSH AND SON'S YELLOW CALLAS, CARNATIONS, ETC., AT THE TEMPLE SHOW.

Government to the desirability of establishing at least two typical orchards in the Eastern Province—namely, one for the coast level, at or near East London, and one for the higher plateau, preferentially at Queen's Town. These were established, and at the present time (1902) have proved to be very successful and useful. The plan adopted was as follows: A portion of unprepared or wild ground was rented of the owner by the Government for ten years. The lessee undertook to fence, clean, trench, plant, and prune the trees. The amount was five acres. After four years the trees begin to bear. The owner undertook to keep the orchard clean, and to allow access to all the farming public to inspect and learn from the cultivation. The owner was entitled to the fruit, and the whole finally reverted to him.

The total expense of the Government was covered by £300.

The following contributions of the *Cape Times* and *Argus* during the March of this year are here inserted as bearing upon the subject of this paper.

EXPORT TRADE.

The productive capacity, as well as the present and prospective prosperity of a country in respect to certain indigenous commodities, may be gauged to some tolerable extent by the progressive volume in bulk and degree of its export trade. There are not, it so happens, many native products exported by South Africa: in fact, they may almost be numbered on the finger of one hand—raw gold, diamonds, wool, hides, feathers, and fruit. But if few in number, they are flourishing in condition. It is with the latter, as a staple of the lower portion of south-western Cape Colony and the Cape Peninsula, that the present article is concerned. The export of Cape fruit across the ocean is yet an infant industry, not as years count, maybe, but decidedly as regards development. Although systematically started some ten years ago, it is an industry that still requires sedulous and steady nurturing. While no great, or world-surprising things have been accomplished, no disheartening results have been recorded, and there exists no tangible reason why this branch of trade should not

reach dimensions commensurate in proportion to those attained by other South African exports. It would be ultra-sanguine to anticipate even a propinquity by our present generation of fruit growers to the eminent and enviable status enjoyed by Californian and Australian competitors, by whom an enormous business is done in the supply of the English winter fruit market. But it is within their power to command, if not pre-eminence, at least prominence, and to compel a strong and well-paying demand for certain specialities. They may not raise Grapes "as large as Plums and as sweet as sugar," but they can grow fruit whose exquisite flavour and lusciousness will tickle the fastidious palate of the most exacting epicure at Gatti's or Holborn. And if it is not reasonable to opine that they can threaten the prestige of Antipodean and Western cousins, they can at least aspire to the successes of the older and more experienced shippers.

A FAVOURABLE OPENING.

It must not be inferred that the argument is advanced that the maw of the English market is ever insatiable, and that there are never occasions when the market, like the open emporiums, experiences an over-supply or a depressed demand; on the contrary, the oversea fruit consignments to Covent Garden and kindred depôts are at times superabundant, and then the purchaser reaps the benefit in having to pay a comparatively low price for his winter dessert. But that is a consideration that need not occasion the Cape fruit grower great perturbation or hesitancy, as he may rather derive a stimulus to persevere in his packing for the home market from a knowledge of the fact that his juicy wares for the most part reach England at a time when the Californian fruit traffic has declined for the season, and before the Australian consignments have well begun to arrive. This very convenient gap he should not be laggard in accommodatingly stepping into and closing.

It is not necessary for the advocate of the cultivation of this important business to be able to juggle with the figures available with the cunning of the skilled statistician, to

demonstrate the remunerative capacity and the excellent and favourable prospects of an industrial market in the purveyance to which the Cape producer has every right to share, along with existing competitive caterers. For the present it will suffice to show what facilities exist, or are being created, for the fostering of the industry, what fruit growers are principally interested in building up a firm reputation for Cape fruits, what was accomplished in the aggregate last year, what has been done so far this season, and what have been, broadly speaking, the net results.

SHIPMENTS THIS SEASON.

The Union Castle Steamship Company provide cool storage on all the steamers of their mail and intermediate fleets for the conveyance of fruit from the Cape. The united carrying capacity of the mail steamers total 1,000 tons, while that of the several intermediate boats exceeds 1,500 tons. The fares of freight charged per ton of 40 cubic feet, Cape Town to London, are: For Grapes and Plums, 60s.; and for other fruits (Peaches, Nectarines, Apricots, Apples, Pears, Quinces, &c.), 70s., plus, in both classes, 10 per cent. It may be appropriately remarked here, parenthetically, that fruit can be sent from Australian ports to London, double the distance covered by the Cape liners, at an even lower average rate than given above, the freight being from 60s. to 65s. per ton all round, the higher quotation being applicable to shipments from Hobart. But though this may be advanced as arguing a present handicap upon the Cape exporter, it must be conceded that where the cool chambers of all the Australian steamers are filled throughout the fruit season, the available accommodation on the Cape boats is but partially utilised. The following shipments have been made this season by mail steamers, no consignments having been placed on board the intermediate boats. The Carisbrook Castle took, on January 2, about 7 tons; on January 8, the Kildonan Castle shipped 11 tons; followed on January 15 by the Saxon, with 21 tons; and on January 22, by the Kinfauns Castle, with 14 tons; on January 29, by the Norman, with 20 tons; and on February 5, by the Dunvegan Castle, with 26 tons. In February the Scot took 33 tons, while the Briton, sailing soon afterwards, had over 50 tons on board for the markets of chilly London. These several shipments, if combined in one consignment, would just comfortably fill the cool chambers of the Saxon, which has a carrying capacity of 189 tons. The value of 182 tons of fruit despatched oversea to date this season may be roughly calculated at about £4,000. The total shipments to London during the season of 1900-1901 amounted to 480 tons, the chief contributors to this aggregate being the late Mr. H. W. Hawkins (Claremont), one of the pioneers of the industry (though not a grower), who shipped 118 tons; Mr. Rhodes's seven fruit farms in the Groot Drakenstein supplied 66 tons; while the Cape Orchard Company (Hex River) were third on the list with 56 tons. This season among the leading shippers we find the names of Sir J. D. Barry (Rustenburg), who has already packed and exported 37 tons of fruit grown on his fine farm; Mr. Pickstone (the manager of Mr. Rhodes's farms), Mr. Nicholson (manager of Mr. J. X. Merriman's beautiful orchards and vineyards), and the Cape Orchard Company.

TEMPERATURE AND PACKING.

The temperature of the cool chamber is maintained at from 38° to 42°; in other

words, at a state varying from 6° to 10° above freezing point. The fruit is packed in the regulation pattern boxes, with battens, the latter, of course, allowing free circulation of the air current between the packages. Grape boxes measure 26 inches by 20 inches by 7 inches, including battens, and nineteen or twenty of these boxes go to the ton of 40 cubic feet. Peach boxes measure 18 inches by 12 inches by 5 inches, with battens, forty-two going to the ton. Plum boxes are the smallest of all, about ninety-six, or thirty-two bundles of three boxes each, being the equivalent of one ton in space. It may be interesting to note here that the prices of these boxes, locally made, range from 11d. each for the largest size, down to 3d. and 4d. each for the smallest kind, while wood-wool, which is indispensable in the packing, costs, also locally, 30s. to 35s. per 100lb. Of course, if imported direct by the packer, the prices all round are somewhat lower.

The proper packing of the fruit is as essential to the complete success of a shipment as the judiciousness of picking. Although a slight shrinkage (a peculiarity with some varieties of African fruit) may be calculated upon, it is desirable to avoid crowding. The use of abundance of wood-wool is economy in the long run. Boxes containing as few as twelve Peaches have not infrequently realised 20s. at Covent Garden, while at the same time boxes of eighteen of the same variety, which have been more closely packed and have probably not weathered the ocean trip so well, have fetched the same price. An experiment made by a Cape exporter early this season in packing Plums in crates of four punnets each, after a Californian method, resulted very unsatisfactorily. The fruit, which when picked was of good size and appearance, was placed in tiers, without any packing in the punnets, and, as might have been expected, reached the market in bruised condition and almost all ruined. Certain Plums, it has been proved, hard-skinned and not too ripe, have carried on long land trips in this manner without ill result, but the Cape fruit, with its greater lusciousness and thinner skin, will never carry this way.—*Cape Times*, February 20, 1902.

OUR EXPORT INDUSTRY.—COOL STORAGE AT THE DOCKS.

A very excellent society of the greatest value and utmost usefulness in the interests of the Cape fruit export industry is the Fruit Exporters' Association of South Africa. This association at the present time consists of a membership of fifteen of our largest fruit growers, including the principals of the Government model farm at Constantia, and Paarl, Stellenbosch, Worcester, Hex River, and Groot Drakenstein experts. The secretary of the association is Mr. Green, of the Agricultural Department, a gentleman possessing a most intimate acquaintance with the details of this interesting industrial art, and indefatigable in the interests of his society. The London representative and consignee of the association is Mr. G. E. Hudson, one of the biggest agents on the Covent Garden market, who disposes of the fruit on its arrival either privately or by auction, according to circumstances. It is noteworthy that the whole of the fruit exported this season, with the exception of about 250 boxes of peaches, has been sent by members of the Fruit Exporters' Association. The fruit, arriving from the country by rail, is consigned to Mr. Green, the secretary, who has it immediately conveyed to a cool chamber rented by the association from the South African Cold Storage Company, Limited, if arriving on any

day previous to the date of the sailing of the mail boat, or if on a Wednesday morning, direct to the cool chamber of the steamer. As unity is strength, it would be obviously in the general interests of the industry, as well as to the direct personal advantage and mutual protection of all the members, if every fruit grower in the Western Province were to join the Exporters' Association, and, at the same time, take an active interest in the exploitation of the great English market.

STEADY EXPANSION.

It is patent that the industry has enormous prospective possibilities and breadth of scope if the fruit growers only lay themselves out to produce much more than the local South African markets, including the future revived Johannesburg market, can absorb. And they should not need much exhortation to set about doing so with unanimous determination. The business has expanded at the rate of about £1,000 a year. Statistical returns compiled by the Agricultural Department show that in 1891 Cape Colony exported £1,000 worth of fruit; five years later the income from this source was £4,500; and in 1900 the amount had reached £9,000. As has been said, the industry is yet in the immature stage of development, but it is healthy and hardy.

THE LOCAL DRAWBACK.

A hitherto and still-existing drawback and hampering factor in the development on a large scale of the export industry has been the lack of cool storage accommodation at the docks, where the fruit sent in during the period between the departure of the one steamer and the date of sailing of the next can be stored. On the one hand, the exporter, very naturally, cannot be absolutely certain that, after having informed his agent or shipper of his intention to despatch fruit by a particular steamer, the climatic conditions will be favourable to the picking of his fruit on the evening before or on the morning of the date of sailing. And, on the other hand, it is distinctly inimical to the prospects of the fruit (even if picked under the most favourable conditions) arriving at its destination in good

condition, if, after having been once cooled, it becomes warmed, to ever so slight a degree, in transit from the temporary receptacle on land to the cool compartment on the steamer. This is a difficulty which, fortunately, will soon be overcome. Cool storage at the docks, the *sine quâ non* to successful fruit exporting, will shortly be available, it being the intention of the Harbour Board to convert a portion of a building at the South Arm into cool chambers for the reception and storage of fruit. The necessary machinery has, indeed, arrived, and but for the occupation by the military of the building in question, the work would have been completed in time for the present season's export trade. The promise has been given that the cool chambers at the docks will be ready for the reception of next season's fruit, and fruit growers may rely on the ratification of that promise.

(To be continued.)

NOTES OF THE WEEK.

FORTHCOMING EVENTS.

June 9. — Committee Meeting of the United Horticultural Benefit and Provident Society.

June 10. — Royal Horticultural Society's Committees meet, Drill Hall, Westminster; Cambridge Summer Show; Horticultural Club, committee meeting 5 p.m., house dinner 6 p.m., paper after dinner, by Mr. Henry Stevens upon "Flower Photography"; committee of National Rose Society's show, 3 p.m., Horticultural Club.

June 11. — York Gala and Floral Fête.

June 19. — Isle of Wight (Ryde) Rose Show; Jersey Rose Show; Meeting of the Linnean Society.

June 24. — Royal Horticultural Society's Rose conference, Holland House (two days); Lee and District Horticultural Show (two days); Oxford Commemoration Show.

June 28. — Windsor and Eton Rose Show; Maidstone Rose Show.

June 30. — Canterbury Rose Show.

July 1. — Southampton Rose Show (two days); Meeting of the National Amateur Gardeners' Association.



THE ORCHIDS FROM MESSRS. CHARLESWORTH AND CO., HEATON, BRADFORD, AT THE TEMPLE SHOW.

July 2.—National Rose Society's Show in the Temple Gardens; Croydon Rose Show; Hanley Horticultural Fête; Hereford and West of England Rose Show; Newcastle-on-Tyne Summer Show (three days); Richmond Horticultural Show.

July 3.—Colchester, Sidecup, and Norwich Rose Shows.

July 4.—National Rose Society's Southern Exhibition at Exeter.

Mr. Owen Thomas.—We draw attention with much pleasure to an advertisement in last week's issue, in which it is mentioned that Mr. Owen Thomas, head gardener to Her late Majesty Queen Victoria, offers his services as an expert in matters connected with horticulture. All we can say is, we know Mr. Thomas to be a man of wide experience and a thorough horticulturist.

Royal Horticultural Society.—The next Fruit and Flower Show of the Royal Horticultural Society will be held on Tuesday next, in the Drill Hall, Buckingham Gate, Westminster, from 1 to 5 p.m. A lecture on "Weeds of the Garden" will be given by the Hon. Mrs. Boyle at three o'clock.

Lathyrus latifolius grandiflorus albus.—Two years or so ago Mr. John Green (Hobbies and Co., Limited), The Nurseries, Dereham, exhibited before the floral committee of the Royal Horticultural Society a remarkably fine white Everlasting Pea, which is now being distributed under the above name. It was so fine in all its parts, the growth robust, the flowers large, much larger than those of the type, and of the purest white, that it was unanimously honoured with an award of merit. The value of the white Everlasting Pea for cutting is well known. In the case of this variety the length of the spray of bloom corresponds with the size of the blossom; it is long and bold. As Everlasting Peas are variable from seeds, it is well to secure a plant of this fine variety rather than trust to seedlings. As the schedule of prizes of the National Sweet Pea Society invited sprays of Everlasting Peas, Hobbies' new form will be invaluable for the purpose.—R. D.

Strawberry Black Prince.—We have grown seventeen varieties of Strawberries, and this year none show anything like the profusion of flowers which Black Prince does. It promises to be the earliest of any of the varieties grown (one of these is Royal Sovereign). The fruit is dark and small, but excellent for preserving. We looked up its antecedents and find that it was raised in the year 1837 by Cuthill. We intend to save all the runners we possibly can for a more extensive plantation. Mr. Laxton says old plants are useless.—WALTER SMYTH, *Holywood, County Down*.

Cyphomantia lanata.—Seeds of this plant were sent to Baden-Baden by M. Sintenis, who then (six years ago) was travelling for me in the Kharput district of Asia Minor. It came among a lot of other new plants, and received no particular care; it was planted out and left alone. My soil is decomposed porphyry, mixed with clay, but I am convinced it would do in any soil provided it received a covering of snow when winter comes on. Most of the Asia Minor plants want this. The two last winters were snowless here, and thus I lost all the plants but one.—MAX LEICHTLIN, *Baden-Baden*.

Narcissus maximus.—On page 351 I notice a complaint that this flowers shyly. Certainly its flowers are fewer in proportion to its leaves than those of most varieties, but *N. maximus* when well grown is such a magnificent flower that it is worth taking some trouble about. Hardly any Daffodil is suited to every soil and situation, and except in a very few favoured gardens the likes and dislikes of each variety must be studied and humoured. The soil and climate of my garden at Edge are (by nature) unfavourable for nearly every kind of Daffodil, but as I have for many years grown hundreds of varieties in grass, in mixed borders, and in beds of made soil, I am beginning to know something about the likings of each. For instance, the *Pallidus præcox* section want shade, growing in their home only in woods, often so thickly smothered with Briars and

Brambles that it is difficult to gather the flowers. All the class of whites, such as those generally called *moschatus*, *cernuus*, and intermediate forms, of which I have many not in commerce, prefer sandy peat, dying out rapidly with me in strong soil. But to speak particularly of *maximus*, of which I have a very fine strain which I collected in the south-west of France in the Landes, a few miles from Dax. They hate anything between them and the sun, and prefer to be in its full blaze and in deep rich soil. So I plant them in good light loam, near a wall facing south, nearly a foot deep. Here I have a long row of their flowers all March, which is the pride of my garden, but they are never left alone for more than two or three years, about one-third of the clump being lifted and thinned each year, and the soil in which they grow renewed. A dusting of basic slag is good for all strong Daffodils, about an ounce to a square yard, either spread on the top at any season or dug in when they are planted.—C. WOLLEY DOD, *Edge Hall*. P.S.—I have never yet seen *N. maximus* doing its best in grass in England.

Tufted Pansy Mrs. E. A. Cade.—This is one of the newest *Violas*, and when sufficiently well known it will be much used for beds and borders during six or eight months of the year. The foolishness of encouraging plants that simply develop large handsome blooms for making up into sprays for exhibition has long been manifest. Those who have the interests of the Tufted Pansy at heart are popularising the varieties specially adapted for bedding. The flowers of the variety *Mrs. E. A. Cade* are large and circular in shape, of splendid substance, and bright yellow in colour, with an orange eye and rayless. The plant is dwarf and tufted in growth. During the heat of last summer this variety was most conspicuous for its free display.—D. B. CRANE.

Plants in small pots.—As a rule plants that are kept in the dwelling-house suffer more from overpotting than from any other cause, the tendency being directly there are any signs of ill-health to put them in a larger pot, whereas a smaller one might have remedied the evil. There is a great tendency, particularly with those whose knowledge of plants is limited, to overwater them, and when this is the case those that have a large mass of soil around the roots are more likely to suffer than when the pot is full of roots. It is surprising what fine Palms can be grown in quite small pots, providing they are not allowed to suffer from want of water, and are assisted by an occasional stimulant. There are now many concentrated manures that can be used indoors without any unpleasant effects, and provided the directions are followed they are very beneficial. One thing to be

particularly observed in applying any of these manures is to take care not to give it too strong, as two weak doses at a few days' interval are preferable to one strong one. The use of pots larger than necessary is not limited to the amateur's plants, as in many gardens different subjects may be met with that would be all the better for more limited root room. *Dracenas* and *Crotons* often have cause to complain on this score. A visit to Covent Garden Market in the early hours of the morning will supply a good object-lesson on the successful cultivation of plants in comparatively small pots.—H. P.

Clianthus puniceus in winter.—Several of these plants have failed to flower satisfactorily here this season. The reason can be traced to a wrong system of protection. This plant should never be protected with matting, cloth, or such like material. The proper method is to insert branches of the common Furze, or Whin right along its main branches. By doing this a free current of air is secured, and the plant is never weakened by too much clothing. I have a plant now in full bloom out of doors, notwithstanding the very severe winter we have had here. Many of the plants in this district, though completely covered with matting, have lost all their green leaves.—WALTER SMYTH, *Holywood, County Down*.

Rudgea macrophylla.—This Rubiaceae plant has for its allies the *Bouvardias*, *Rondeletias*, *Cinchonas*, and others of this class, from all of which in general appearance it is widely removed. Its usual habit is to form a stout spurely branched shrub, with large oblong-shaped deep green leaves. The flowers (just now at their best) somewhat suggest those of the *Stephanotis*, and are also of the same wax-like texture. They are borne on the points of the shoots in dense globose clusters, which nestle among the leaves forming the termination of the branch. From their thick wax-like nature the individual flowers remain fresh a considerable time. This *Rudgea* is a native of Brazil, and requires the treatment given to the general run of stove plants. It was at one time more popular than now, though I have noted it in several places this season. Propagation is effected by means of cuttings, for which purpose shoots of medium vigour only should be chosen. If these are taken off at a joint, inserted singly into well drained pots of sandy soil, and plunged in a propagating case where there is a gentle bottom heat most of them will root, though some may require a good while before this takes place. The young plants have a tendency to run up naked at the base, to prevent which they should be freely stopped during their earlier stages.—T.



THE POPPY ANEMONES FROM MESSRS. REAMSBOTTOM AT THE TEMPLE AND MIDLAND DAFFODIL SHOWS.
(From a photograph sent by Mr. Arthur Goodwin.)

Tulip notes.—I was in Holland lately for a holiday, and, though I was in some three gardens, I did not make more than a note or two of kinds that pleased me, and which I mean to have in my own garden next year. Most of them from their names seem to be Irish sorts, namely, Shandon Bells, Harlequin, Striped Beauty, White Parisiana, York and Lancaster, Crested Crown, Silver Queen, and Fairy Queen. The Darwin Tulips, owing to the frosts, were hardly in flower, and were bruised and battered by wind and hail.—GEORGE PAUL.

Streptosolen Jamesoni.—This Browallia-like plant is one of the finest evergreen climbers we have for the cool greenhouse. At the present time a magnificent plant of it is in the conservatory attached to the residence of the Misses Gladstone, Hampton Hill, Swanmore. The plant is four years old, and is growing in a narrow border at the foot of the back wall facing east, and is now 8 feet high. The flowering portion of the plant covers a space of but 4 feet. Into this limited area there is crowded fully eight dozen flower trusses, of which I send one or two. So thick are they together that the leaves are quite hidden. The colour is especially deep, an intense fiery orange, which enhances its beauty. The foliage is of that luxuriant green colour which denotes perfect health; in fact, if it were not so the plant in question could not be carrying such a wealth of blossom, reflecting as it does great credit on the gardener, Mr. W. Cooper.—E. MOLYNEUX.

"Variegated Broom."—I was much interested in Mr. Arnott's letter *re* this Broom, on page 344. Mr. Milburn pointed out a fine specimen of it when I was last in the Bath Botanic Garden. It is growing on the north side of the rock garden amongst a number of dwarf Anemones, and while *not* being striking, possesses a quiet beauty of its own, which is enhanced when the sun is shining on it. At any rate it has found a number of admirers, and although the "craze" for variegation—much of which is anything but pretty or restful to the eye—is to be deprecated, your readers need not be afraid of planting this Broom.—ARTHUR R. GOODWIN, *The Elms, Kilderminster.*

I have much pleasure in sending you two sprays of the variegated Broom, taken at random from my bush. I quite agree with your advice to readers to endeavour to see it before purchasing it, as many of these variegated forms of favourite flowers are not in any sense acquisitions, and the too frequent use of variegated plants is to be deprecated. This Broom is at its best in May, and you will observe that some of the later growth is not so bright as that which appears earlier. Occasionally a whole branch comes entirely green, and this has to be cut out altogether. Like the common Broom and its varieties, it is greatly benefited by being cut well in immediately after the flowering is over. A small piece does not, however, give an idea of a bush in the garden, where a short distance off it looks like a flowering plant.—S. ARNOTT, *Rosedene, Carselthorn, N.B.* [We always hesitate to recommend a variegated shrub unless we know its worth. Mr. Arnott kindly sends several shoots, and the leaves are of pretty colouring, yellow, with a trace of green in the centre of each. At this season it is certainly an attractive variety.—ED.]

Azalea balsaminæflora.—Although only a variety of *Azalea indica*, this is one of the most widely removed from the type of all the numerous forms in cultivation, and it is also one of the hardiest, for it will stand most of our winters without injury, and apart from this it is a delightful little greenhouse shrub, just now at its best. The habit is that of a much branched yet spreading shrub, plentifully clothed with narrow rather light green leaves, while the flowers, which are about 2 inches across, are of a pleasing shade of



GROUP OF MESSRS. WEBB AND SONS' CALCEOLARIAS AT THE TEMPLE SHOW.

bright salmon pink and very double, the petals being imbricated in a regular manner. It was introduced from Japan a little over twenty years ago, and bears beside the name at the head of this note that of *A. Rollisoni* and *A. rosaflorea*, this last being most appropriate when the flowers are partially expanded, as they then much resemble tiny Rose buds. As a rockwork plant in a fairly cool, moist, and partially shaded spot it is quite at home, while in the greenhouse it will often produce a few scattered blossoms throughout the winter, winding up with a grand display in the spring. It is not at all difficult to strike from cuttings of the young growing shoots put in very sandy peat and covered with a bell-glass, but the young plants make slow progress during their earlier stages; indeed, this *Azalea* is far from a quick growing subject, hence it is difficult to obtain any but small plants from nurseries. Our friends on the continent who propagate all *Azaleas* by grafting on to long naked stems, treat this kind in the same way to its manifest disadvantage.—H. P.

The spring of 1902.—The effect of the spell of cold weather—accompanied by occasional frosts more or less severe, which lasted from the middle of April until the middle of May—on the fruit crops and on vegetation generally is somewhat remarkable, but hardly so disastrous as we anticipated. All trees naturally late in developing their foliage—whether indigenous, as the Ash, or exotic, as some of the *Magnolias*, the Mulberry, the Kentucky Coffee Tree, the deciduous Cypress, and others—will only just have burst their buds by the end of the month. I regret to say that our fine specimen of *Pterocarya caucasica* (by far the largest in England) has suffered heavily. Although an exotic it is one of our earliest leafing trees, and given a cold spring has to pay the penalty. At the present time the ground beneath the tree is strewn with catkins, both male and female, and the greater part of the young foliage is blackened. An inspection of the fruit walls shows that Peaches, Nectarines, Plums, Pears, and Cherries (that were covered with a double thickness of half-inch mesh fish netting) have come safely through, and promise abundant crops. I do not grow any of these fruits unprotected in the open, and cannot say how they have fared in such positions, but I fear badly. Apples were fully out at the time when the

sharpest frosts were experienced, and have doubtless suffered. There was, however, such a profusion of blossom that we may hope for at least a moderate crop. All the early Strawberry flowers were destroyed.—E. BURRELL, *West Surrey.*

ARTIFICIAL MANURES IN THE GARDEN.—II.

THE chief sources of phosphate are basic slag, bone superphosphate, and mineral superphosphate. Bone superphosphate and other manures made from bone contain a proportion of nitrogen, and this should be taken into account when the value of the manure is being estimated; the mineral phosphates contain no nitrogen, and their value depends on the soluble phosphate present in any particular sample. When a phosphatic manure is wanted, any of the three forms here mentioned may be used with good effect in most cases; but where it is desired to get a quicker result in the garden generally, superphosphate is superior to slag, save in cases where the land is full of vegetable matter. On grass lands, especially in low-lying positions, however, the improvement resulting from the use of slag is often most striking, and a dressing could often with advantage be given to orchards. It is the best phosphatic manure to use also with nitrate of soda, as is superphosphate when sulphate of ammonia is the nitrogenous dressing employed. Bone superphosphate should contain about 30 per cent. of soluble phosphate and about 3 per cent. of ammonia. We say "about," for the quality varies greatly, and purchasers should therefore not neglect to see what percentages are guaranteed when comparing the prices. It should be borne in mind also that boiled or steamed bones are often employed in the manufacture of superphosphates, and in this case the quantity of nitrogen present is appreciably lessened.

As a phosphatic manure, the superphosphate made from bones has no superiority over that made from minerals, and the nitrogen in the former can just as well be supplied by means of a nitrogenous manure, so it is merely a question of convenience and of price which shall be used. Generally speaking the use of the two manures

(phosphatic and nitrogenous) will be the more economical.

Considerable difficulty is sometimes experienced by buyers owing to the different forms in which the contents of the manure are described in dealers' lists. There are sometimes references to so much per cent. phosphate of lime; in others to so much per cent. phosphoric acid, just as in the case of nitrogenous manures there are the similar references to nitrogen and ammonia. But there is no difficulty in calculating the respective values of any manures offered if we remember that 1 per cent. of phosphoric acid is equal to 2.183 of phosphate of lime; thus 25 per cent. of phosphoric acid would be equivalent to 54.5 phosphate of lime. As 2.183 is a clumsy figure to work with, the calculation may be made approximately correct by multiplying by 2.2. It will be seen that on this basis 25 per cent. phosphoric acid would be equivalent to 55 phosphate, and this is near enough for all purposes of comparison.

There is considerable difference of opinion as to the extent to which potash manures can be profitably used. Some soils of a heavy character contain large supplies of potash, and it has been for a long time accepted almost as an axiom that on such soils it is unnecessary to use a potassic manure. Of late, however, this has been questioned, and experiments carried out in various parts of the country have seemed to show that even on soils which apparently contain large supplies of potash the use of kainit or muriate of potash has been highly profitable. However this may be, there can be no doubt that on most light soils its use would be amply repaid. The chief sources of potash are the two manures named and sulphate of potash. Wood ashes, too, contain some potash, and most gardeners are fully alive to their value.

The potash in these manures is variably described, a manure being sometimes said to contain so much "pure potash," and again so much "sulphate of potash." To calculate the value of any sample from the guarantee supplied, it should be borne in mind that 1 per cent. of pure potash is equivalent to 1.85 of the sulphate, and 1 per cent. of the sulphate to .54 of potash. If one manure then is said to contain 23 per cent. of sulphate of potash and another 13 per cent. of pure potash we shall find on working out the figures that the latter contains slightly the larger quantity. Thus 23 multiplied by .54 comes to 12.42, which represents the pure potash in the sample showing 23 per cent. of sulphate. Or, conversely, 13 multiplied by 1.85 equals 24.05, which is the amount of sulphate in the sample that is represented as having 13 per cent. of pure potash. Those who do not want to deal with decimals can arrive at practically the same result by multiplying the figure of the pure potash by 1.74 and dividing by .94, or reversing this process when dealing with the figure of the sulphate. A sample of kainit of good quality would contain from 11 per cent. to 13 per cent. of pure potash, muriate would show slightly over 50 per cent., and the salt commercially known as sulphate of potash would contain somewhere about 25 per cent., the range of figures being rather wide in different samples.

If the different figures given here in respect of the three principal ingredients supplied by artificial manures are kept in mind, it will never be difficult to compare the respective merits of the goods offered by any merchant if his guarantee is examined; and if the values of the units of nitrogen, potash, and phosphate are also ascertained it will be possible to form a tolerably accurate idea whether the price asked is reasonable or not. A few hints on this subject will be of some use. Let us suppose that nitrate of soda containing 15.6 per cent. of nitrogen is offered us at £9 10s. a ton. By the figures given in our issue of March 29 it will be seen that this is equivalent to ammonia 18.93 (1 per cent. of nitrogen being equal to 1.214 ammonia), or, to put it in even figures, say 19. The cost of the unit would therefore be £9 10s. divided by 19=10s. If, again, sulphate of ammonia containing 24 per cent. ammonia were offered us at £12, the unit would cost £12 divided by 24=10s., and it will be evident that so far as price is concerned it is a matter of

indifference which we use. But these prices are merely used for illustration; the actual prices vary from time to time, and it is possible sometimes to effect a considerable saving by making the calculation before ordering. In the same way the market price of the other manures should be studied to arrive at the value of the units, but it may be stated that that of soluble phosphate is about 2s.—rather less at present—of insoluble phosphates about 1s. 3d., and of potash 4s. Now take an example of a manure offered with the following guarantee: Phosphates, made soluble, 23; phosphates, insoluble, 12; nitrogen, 2.47 (equal to ammonia, 3). This would represent a reasonable guarantee for a sample of dissolved raw bones, and, excepting that the figures are simplified for purposes of calculation, they are those of an actual analysis. Then, taking the scale above fixed,

23 per cent. soluble phosphate at 2s.	£ s. d.
12 per cent. insoluble phosphate at 1s. 3d.	2 6 0
3 per cent. ammonia at 10s.	15 0
	1 10 0

Total £4 11 0

£4 11s. then would be the market value on the assumption that the unit figures at the time of purchase stand as stated, and if more is asked the intending purchaser should go elsewhere. If any of our readers will try this plan, they will soon find out that the prices which they are asked for some mixed manures sold to gardeners are far beyond their actual value, and that they could get the same ingredients if purchased separately at a much lower rate. It is only fair to say, however, that it is often a great convenience to gardeners to use mixed manures, and that the manufacturers are entitled to a fair return for the skill and knowledge they have brought to bear on their preparation, and it is for the purchaser to judge for himself whether the extra price he has to pay finds its equivalent in the trouble he is spared. That it is to their interest to look into the matter will be evident from the following example taken at random from a list. It is a special manure, and the two columns of figures show the valuations (1) on the minimum guarantee and (2) on the maximum:

		Minimum.	Maximum.
		£ s. d.	£ s. d.
Phosphates soluble	18 to 20 @ 2/-	1 16 0	2 0 0
" insoluble	2 to 3 @ 1/3	2 6	3 9
Potash	1½ to 2½ @ 4/-	6 0	10 0
Ammonia	3 to 3½ @ 10/-	1 10 0	1 15 0
Totals		£3 14 6	£4 8 9

The price demanded for this manure, free on rail, is £7 per ton.

THE FRUIT GARDEN.

LATE APPLES IN THE NORTH.

ON page 178 the best Apples in their season were ably described by Mr. Owen Thomas. The following are additions to the list of varieties most valuable at Alnwick Castle, Northumberland. I must in the first place refer to that splendid Apple

NEWTON WONDER,

which is a great favourite at Alnwick; it is one of our best late winter Apples, and the trees in that part of the country do not make the vigorous growth they do at Syon in a light gravelly soil. Few Apples keep better and longer than the Blenheim Orange, as the fruits in April were very firm. Our trees in the North are mostly bush and a very few dwarf standards, and exposed to severe winds at times from the east, but they generally crop well; at Alnwick the trees flower quite three weeks later than in the South. Another equally valuable Apple is

LANE'S PRINCE ALBERT.

This is even of greater value with us than the late cooking varieties, as in the spring it is used for dessert. I need not dwell upon the merits of this

first-rate Apple as regards cropping quality and appearance; it differs greatly in some gardens to what it does in others in the colour of its fruit, but I have never known Prince Albert fail anywhere; it is one of the most prolific of all late varieties, and does well either as a bush or standard. With us

ALFRISTON

is a great favourite, and keeps well into April; indeed, I have seen some fine specimens at the Temple show, but doubtless its season is from Christmas to Lady Day. Like the last-named, it crops well. Every other year most of our bush trees crop heavily; indeed, too freely, as a lighter crop means better fruit. Our best fruits in the North are obtained from dwarf trees; indeed, standard trees are not so trustworthy. At Syon our bush trees are remarkable for their vigorous growth, and though at times severely pruned they crop well, producing very fine fruit, but with less colour than in some other places. I am also sending fruits of

BRANLEY'S SEEDLING,

to show how well this variety thrives in the North. The trees are mostly bush, and, like the others named, are in an exposed position, but fruit well when they have been planted a few years. This variety in our light soil at Syon is not so good as at Alnwick. There it is a most valuable late Apple, and keeps well until Easter. With us it is a strong grower, and is best when given ample room and not pruned too hard; there are few better cooking Apples. Another very free cropping variety which also cooks well, though not so late, is

BISMARCK;

this does well in the North, keeps well into the spring, though doubtless its season is November to February. It rarely fails to crop, and appears to thrive in any form—standard, bush, or pyramid—and the fruits are very handsome. This Apple is a great favourite in the North, and one of the most profitable market varieties grown. Another good quality the last-named Apple possesses is its quick fruiting, as even very small trees bear. This is important to large growers, as some of our old varieties require time to make them profitable. An old but good late Apple and equally valuable for cooking is

NORTHERN GREENING.

It is not so large as some of those noted above, but is a good bearer, and keeps well into the spring. This in the North is much grown for use in the spring, and it crops well; indeed, far better than it does in the South; it is of first-rate quality, its acid flavour being much liked. This Apple is grown under several names, but is mostly known by the one described. Strange to say some varieties do not thrive so well North as one would expect; the Wellington cannot be trusted, and does not keep so long as those noted. On the other hand, there can be no doubt whatever that it is one of the most valuable Apples for the London markets, and in our light soil at Syon rarely fails, but I would not advise planting it in wet or clayey land.

G. WYTHES.

[With this note came fruits of those described, excellent in all ways, firm, and of good colour and quality.—Ed.]

ESPALIER APPLE TREES.

WHETHER there be any general revival of the espalier tree for garden planting or not, I noticed when in that very fine kitchen garden at Hackwood Park, Basingstoke, the other day that Lord Bolton, who now resides there, is having numerous espaliers planted just behind the flower and other borders which enclose the vegetable quarters. Some espalier Apples planted several years since have done so well and have cropped so finely that Mr. Bowerman is now having this form of tree widely extended, and as there is ample room in time some grand crops of fruit should be produced in that way. It is really surprising that a method so admirable and admitting of such fine ample fruits being produced is not more generally

adopted. I observed that at Sherborne Castle Mr. Turton had extended his espaliers also. Some day perhaps we may see an enterprising capitalist planting a thousand acres of such trained trees as a commercial speculation. A. DEAN.

AN ANCIENT OLIVE.

ALL who are in true sympathy with the noblest aspects of tree life, and who have wandered among some of the old Olives of the Mediterranean regions, will remember them as among the most impressive of living things. Whether among the hillside groves of these sunny shores of southernmost France, so well known of English folk, or among the still grander examples in the beautiful island Corfu, or among the gorges of Algeria guarding the

NOTES ON HARDY PLANTS

ANNUAL COREOPSIS.

ANNUAL forms of *Coreopsis* are beautiful border flowers, but the perennial species are more useful, entailing little trouble compared to the annual forms. Now that we have improved forms of the original type *lanceolata*, which was itself introduced into this country from North America as far back as 1724, we may reasonably expect this family to be even still more widely cultivated. Mr. Ladhams, Shirley, Southampton, has for some years paid attention to the improvement of this genus by crossing, selection, and cultivation that now he has obtained a variety which he styles *C. lanceolata* Eldorado. This for the individual size of its blossoms is fully as large again as the type, and much more intense in its olden colour. Another point in its favour, too, is the extra length and strength of its flower stem, which for vase decoration enhances its value considerably. In point of growth, too, it differs from the parent, the leaves are more deeply cut, and have a woolly appearance.

E. MOLYNEUX.

RANUNCULUS FLACCIDA.

A LITTLE known Japanese species, with a fleshy or rhizomatous rootstock, and slightly hairy, beautifully marbled leaves. The handsome flowers, produced either singly or several together, are about 1 inch to 2 inches across, and either pure white or faintly tinged with rose. On warm days the flowers exhale a sweet scent. It will either grow treated as the common Wood Anemone planted in a shady spot or three or more together so as to form a group in the mixed border or upon the rock garden, but not among rocks or in a dry spot. It is deciduous, starting into growth during the winter and flowering in April or May, and is quite hardy and easily grown.

R. glacialis, a dwarf and slow growing high alpine, flowers here as well as the allied form *R. Seguieri* during April and into May, while on the Alps it rarely blooms before July or August. The quite round flowers are about 1 inch across, usually pure white and occasionally rose-coloured.

R. Seguieri is, if anything, still smaller in growth, with glaucous green leaves and a number of pure white flowers; it is a very pretty plant, blooming under cultivation during April and May, and when once well established and grown in groups, I regard it as one of the most striking of early alpinists.

R. pygmaeus is a very rare plant, and so small and dwarf in growth that it will escape the notice of the keenest plant hunter unless it is in flower. It grows usually on bare slopes among short moss or short grass at altitudes of 6,000 feet to 8,000 feet. The foliage is not much unlike that of the

former, but the short, almost sessile flowers are large, as much as 2 inches to 2½ inches across, round and of good substance, and either white or of a delicate rose colour. There seems, however, a difference between the eastern alpine and the more western and south-western forms. The latter I know only from descriptions, while the former I have recently collected (only a few specimens) more than once, and while the one is described as having white flowers the other is far more variable in colouring, and consequently the more interesting. Under culture it flowers at the present time.

G. REUTHE.

ARABIS ALBIDA FL.-PL.

I, too, have a good word to say for this Wall Cress, and I believe before long that we shall see considerably less of the single form. Every blossom is really a rosette, and quite white, not a dingy hue. The spikes, too, stand up quite erect, while the growth is more compact than that of the single-flowered form. The time, too, that the double-flowered variety lasts in bloom is a point in its favour.

E. M.

ANEMONE SYLVESTRIS.

FOR May flowering this Anemone deserves a place in any collection, no matter how small. On the rockery or at the front of the herbaceous border in a mass its pure white blossoms show to advantage. It is one of the loveliest of all hardy flowers, being very free, graceful, and easy to grow. I lately saw a huge mass of it in Mr. Ladham's Shirley Nursery, where it made quite a bright display in the landscape.

E. MOLYNEUX.

OTHONNOPSIS CHEIRIFOLIA.

THIS is one of the most distinct-looking plants in the border at this season. A large plant in a dry border which has now been in the same position for several years has attained to considerable proportions, and presents an attractive and uncommon appearance with its grey-green leaves, which are quite tropical in their general effect. Although its flowers are of little consequence, the Barbary Ragwort is worth growing because of its distinctness. The flowers somewhat resemble those of a poor, single African Marigold. In mild winters I have had flowers more or less throughout that season. This year there are none. This *Othonnopsis* is not a very reliable flower everywhere. In some gardens, especially those with stiff clay soil, it does not stand the winter without protection. I should not like to say how long it has stood here without protection, as I have no note of when it first came here. It has, however, stood some of our hardest seasons, such as the terrible winter of 1894-95, without covering and without suffering any injury. Last spring it was rather cut by late frosts of some severity, but it has now quite recovered.

The Barbary Ragwort, as its popular name would suggest, is a native of Barbary. It is most at home in a light soil such as that here. In most gardens it is found to thrive best on rockwork, but here it is grown on a very dry, sunny border. Its habit seems to make it more suitable for trailing over a large stone in the rock garden than for fastening to a stick and keeping upright in the border. When grown among other vigorous alpinists it has a most distinct effect and gives a character to the place it adorns. It grows without much difficulty from cuttings taken off in spring.

S. ARNOTT.

Carsethorn, by Dumfries, N.B.

USES OF BRITISH PLANTS.

III.—CRUCIFERÆ.

(Continued from page 313.)

SCURVY GRASS (*Cochlearia officinalis*) is a common plant round the coasts. The leaves are somewhat fleshy and the flowers white. The pod is nearly globular. It abounds in a pungent oil, to which



ANCIENT OLIVE AT CAP MARTIN NEAR MENTONE.

(From a photograph by Miss Willmott.)

tombs of holy men, the old Olive is a tree of remarkable beauty. Its hollow trunk, worn into a cluster of rugged pillars that at first sight look so old that one thinks they must be on the verge of decay, is really full of vitality, for on looking upward one sees grand young growths full of vigorous life flung aloft and abroad with that wonderful grace that can scarcely be matched by any other tree. Grandeur of venerable age, beauty of young strength, silvery daintiness of grey bark, consummate grace of branch and twig, and lovely disposition and form of leaf are all qualities that may be claimed by the matchless Olive, and all this with the sober restraint of colouring that gives it its own distinctive grace of refined modesty.

anti-scorbutic properties are attributed, and would form an agreeable salad. It was used in the sixteenth century as a supposed remedy for ague.

Horse-radish (*Cochlearia Armoracia*) is probably an escape and not a true British plant. It was not in general use before Gerard's time (1597), who says: "Horse-radish stamped, with a little vinegar thereto, is commonly used among the Germans for sauce to eat fish with and such like meats as we do mustard." It appears to be alluded to by Pliny as *Armoracia*, hence its present specific name.

Gold of Pleasure (*Camelina sativa*) was probably introduced with Flax. It is cultivated abroad for the sake of the oil in the seeds, which is used for various domestic purposes. When the railway cutting was made in 1859 at Steyning, in Sussex, this plant suddenly appeared on the sides in great quantity; but it disappeared again a few years afterwards.

Pepper Cress (*Lepidium latifolium*), also called "Dittander," is found in salt marshes. It was formerly used as a condiment, in consequence of its pungent qualities, and cultivated in cottage gardens. It is an ally of the Garden Cress (*L. sativum*), a native of the East.

Woad (*Isatis tinctoria*).—This grows to about 3 feet in height and bears yellow flowers and small flat pods which do not open. Caesar says he found the natives stained with *vitrum*, from which the word "Woad" is derived; but by Pliny, in the first century, it was called *glastum* (hence Glastonbury). *Glas*, in Celtic, means blue or grey, but the older name of that town was "ynys vytryn," meaning "Paint island;" hence there is some obscurity as to the meaning and interchanging of these words. How the ancients prepared the blue dye is not known, but Dr. Plowright, of Lynn, states that Woad leaves, when covered with boiling water and weighted down for half an hour, and the water poured off, treated with caustic potash, and then rendered acid with hydrochloric acid, yields a good indigo blue. If the time of infusion be increased greens and browns are obtained. Woad mills are still worked at Wisbech, but not for the dye. The produce *fixes* true indigo.

Seakale (*Crambe maritima*).—This is common on our sea shores, and the people in the West of England have been accustomed to cut the young shoots and eat them boiled like Asparagus. The cultivated form is the same, only larger. It has long been used by the old herbalists as *Brassica marina* or *Sea Colewort*.

Radish (*Raphanus sativus*).—This has been derived from the wild Radish (*R. Raphanistrum* var. *maritimus*). It is very ancient. Herodotus tells us that Radishes formed part payment of the builders of the Great Pyramid. M. Carrière, who obtained good roots from the wild plant, found (as Pliny records with Rape) that long roots are produced by sowing the seed in a loose soil and short or Turnip-rooted kinds in a stiff soil. The same results occur with Carrots.

GEORGE HENSLAW.

THE FERN GARDEN.

OSMUNDA PALUSTRIS.

FOR the cool greenhouse this is a pretty Fern. It is a native of Japan, and somewhat resembles the North American species *O. gracilis*, but has more substance in the fronds, and is evergreen, while *gracilis*, like our Royal Fern *O. regalis*, loses all its fronds in winter. *O. palustris* comes freely from spores, and is useful in quite a small state. When grown in a light position the young fronds have a rosy crimson tint. This Fern used to be grown extensively for market, but I have not seen it about so much during the last few years. It is certainly well worth a place in the cool fernery. Potted in a compost, consisting chiefly of fibrous loam, and given an intermediate temperature, it will grow freely. The plants must not be crowded together, and full exposure to the light is necessary.

ONYCHIUM JAPONICUM.

This is a useful Fern for cutting from, and may be grown in a cool greenhouse. It is nearly hardy, but the fronds lose colour if the temperature falls much below 40° Fahr. Spores are not produced freely, but it may be propagated by division. The best time for doing this is in the spring, when the plants are starting into new growth; if done carefully, and placed in a warm, close house, they soon start away again. When spores can be procured they germinate freely, and seedlings make pretty plants, which in a small state are useful for small vases.

ONYCHIUM AURATUM.

This is a most elegant Fern, with larger fronds than the *O. japonicum*. It is, however, a very tender species, and requires a stove temperature. The large finely-cut fronds are produced from a single crown, and therefore can only be propagated from spores, which, though plentiful, do not germinate freely. It should be grown in a light peaty compost with good drainage, and careful attention must be paid to watering.

A. HEMSLEY.

A WEST ROSS-SHIRE GARDEN.

The following interesting notes are contributed by Mr. O. H. Mackenzie to the *Glasgow Herald*:—The new century, which, I suppose, began on January 1, 1901, started by being more like summer than winter, for we were eating Globe Artichokes for dinner, and the drawing-room was decorated with a profusion of lovely out of door flowers belonging both to the old and the new year. Big vases full of true blue Hydrangeas and brilliant Rhododendrons, quantities of Veronica blooms, besides flowering sprays of Berberis Darwinii, Andromeda floribunda, Iris Histrio, and Schizostylis coccinea galore, the former a gem amongst the earliest of our spring flowers, and the latter a prince amongst those of late autumn.

RHODODENDRONS IN MIDWINTER.

Anyone living on this mild West Coast should go in strongly for Hydrangeas, all varieties of which bloom more or less persistently from August to January, except the beautiful *H. paniculata*. I feel almost shy of telling of my precious Rhododendron, a scion of that famous big tree at Tulloch Castle, in this county, which has bloomed every winter for the last fifty years between Christmas and February. I know people will hardly believe in Rhododendrons blooming in midwinter, but nevertheless it is a fact. It is supposed to be the *R. nobleanum*; but a plant bearing that name which I got from one of the Royal Botanic Gardens some years ago, and which should therefore be true, has never shown a flower in winter like my Tulloch one. How glorious it looked on last New Year's Day, with fifty of its crimson-scarlet trusses fully expanded, and lots of fat buds besides showing as red dots all among the green leaves. It is, indeed, a treasure, and it would be worth while for any enthusiast on shrubs to travel a very long way to see it. Close to it are some big bushes of Veronica Andersoni, fully 5 feet high, all covered with bright blue flower spikes. I am told on good authority that this most useful plant is a hybrid between *V. salicifolia*, which blooms early in August, and which seeds itself profusely all over this place, and *V. speciosa*. Perhaps it would not stand through an East Coast winter, but here it is of great value as a winter-flowering shrub; so with these and the golden foliage of the New Zealand *Diplopappus chrysophyllus*, the blue-grey boughs of Eucalyptus coccifera, and the Arbutus bearing its white bells and scarlet Strawberries simultaneously, there can be no excuse for not having gay rooms in winter in this climate without any help from glass.

THE FEBRUARY BLOSSOMS.

February blossoms are naturally not very plentiful, but still it is an interesting time of year. My best flowering shrub during that month was Rhododendron amenum: it is very bright and floriferous, but its petals have not the power of

resistance against snow or sleet that its more robust cousin the Tulloch Rhododendron has. Still it is a great acquisition. Close to it there are some grand tree Heaths, which, though not actually in blossom in February, were far enough advanced to be quite decorative; they are Erica arborea and Erica australis, the former showing quite white, and it reminded one of its giant sisters which cover the hillsides in Corsica, and make them look in April as white as if there had been a heavy fall of snow. I am devoted to Heaths, and have also got some plants of E. codonodes, a native of Portugal, like E. australis, but having had the former only a year all I can say of it is that, unlike E. australis, which is crimson, its flower is white. They are said to grow 6 feet high, which can easily be believed, as the other two kinds of Ericas are about that height already. I certainly saw E. arborea 20 feet high in its native country, and really these look as if they would be very startling Heathers in a few years' time. Like the Snowdrop, one could ill dispense with their pigmy cousin Erica carnea. It is a real joy all winter and early spring, and he who first introduced it (from Servia, I think), and they who found us those magnificent so-called Lenten Roses or Hellebores, which, however, bloom here in January, as well as Iris stylosa and I. reticulata, richly deserve to have their names recorded and honoured.

THE HARDY EUCALYPTI.

I possess a curious Australian shrub called Correa, which seems very hardy and blooms all the winter, its yellowish bells being interesting if not very showy; it reminds me slightly of the Forsythias, only it is so very much earlier. My Eucalypti are, I think, most attractive in winter and early spring. It is delightful having evergreen trees, so utterly different from what we have been accustomed to look on as evergreens, such as Firs, Spruces, Cupressus, Retinosporas, Araucarias, &c. The colouring of the Eucalypti is to me so fascinating, especially that of E. gunnii and E. coccifera, and no amount of wind and rain, snow, hail, or frost seems to injure them. I hope it may not be thought an exaggeration to say that after a specially cold, stormy winter a fairly tall specimen of Eucalyptus Whittinghami, about 30 feet in height, and the offspring of Scotch seed ripened at Mr. Arthur Balfour's seat in Berwickshire, looked less affected than the Scotch Firs alongside of it, as they did show a certain amount of scorching in March and April from the frightful gales off the ocean to which they had been subjected, but the leathery leaves of these hardy Australian gum trees are proof against any amount of cold and storm. I have some nice small plants of E. cordata from seed ripened at Lord Ilchester's place in Dorsetshire, which are said to be very hardy also, and these four kinds, with the addition of E. pauciflora and E. urnigera, form so far my small collection. How I wish that hardy Eucalypti had been known in 1863, when planting was started here, as in that case there might have been some show trees by this time, for the Wellingtonias planted then are from 50 feet to 60 feet high now, and are still making vigorous growths upwards. Lovers of rare trees ought to start Eucalypti, but to beware of E. globosa (the common blue Gum). It is said there are 360 species of Eucalypti, but I fancy only those mentioned by me have proved themselves hardy; even under the influence of the Gulf Stream, E. globosa will sometimes get through one or more mild winters and rush up to a big tree, but some cruel spring frost is pretty sure to come and carry him off eventually. I must confess to feeling a little proud sometimes when I look into one of my little exotic shrubberies, where for the moment I can hardly believe that all these Bamboos, Camellias, Palms, Phormiums, Cordylines, Aralias, Tree Ferns, &c., are not under glass till I am perhaps reminded by a sharp shower of hail that we are all of us very much in the open. One does not often come across the Arbutus on this coast, though they do so very well; here there is one 20 feet high and laden with fruit. I possess now a number of new kinds, one of them with pink flowers, but cannot otherwise yet say much about them except in the case of Arbutus Menziesii, of which I have a promising young plant, and a

specimen of which was really the tree above all others which I most admired in Kew Gardens, as it was entirely covered by what can only be described as gigantic Lilies of the Valley.

(To be continued.)

THE WEAVER PLUM.

ONE of the most interesting types of North American Plum is the widespread *Prunus americana*. It has many forms, but the strongest and best horticulturally is the one that grows wild abundantly along the Mississippi river and its tributaries in Iowa, Kansas, Nebraska, and Missouri. Many hundreds of varieties have been selected from this, and some careful breeding has been spent upon it. As a result the horticultural varieties are now planted by thousands in orchards. They are specially prized in the northern part of the Mississippi valley, where the climate is too severe for other Plums, but where this species is quite at home. It is probably the hardiest fruit of any importance known. The variety Weaver, shown natural size in the accompanying illustration, is typical, but not so large and fine as many of the more recent introductions.

F. A. WAUGH.

Vermont University, U.S.A.

THE FLOWER GARDEN.

CHRYSANTHEMUMS FOR THE GARDEN.

FEW plants are so effective as the many varieties of Chrysanthemums. Although considered as a tender plant, it is very hardy, and the flowers are useful for cutting. Early Chrysanthemums may be used in more ways than one. Firstly, for planting in the mixed border; secondly, for training against walls, &c., thus obscuring many an unsightly object; and, thirdly, they may be grown in tubs or pots for terraces and other places. The Pompon, Anemone-flowered, incurved, and the more robust Japanese and reflexed varieties succeed remarkably well.

The cultivation of the outdoor Chrysanthemum is extremely simple. It is propagated in distinct ways, by cuttings to raise young plants, and by division of the stools. If possible, it is best to obtain cuttings early, about January, or, failing this, as soon as they are procurable. As in the case of exhibition varieties, select those cuttings which are rooted into the soil, because this will mean a saving of time, and insert them about 3 inches apart in boxes of light sandy soil, not too rich, as this tends to stimulate the growth unduly. Water the cuttings and place them in a shady frame to strike. In a fortnight they will have rooted sufficiently to justify transference to other boxes. Give the plants ample room for development, and plenty of air, otherwise the growth will be weakly. As soon as the plants have got well rooted pinch out the tips of the shoots to induce them to break into three or four growths, giving these in turn the same treatment, so that by planting out time the plants are very leafy.

One point should always be borne in mind, viz., keep the plants as hardy as possible, no artificial heat being necessary. The Chrysanthemum delights in a rich compost, therefore prepare the site by trenching and manuring in the autumn previous to planting. Provided the aforementioned conditions are strictly adhered to they may be planted outside in April. After planting carefully stake them, and

also from the time they are rooted up to the flowering period; give liquid manure to ensure perfectly developed flowers in abundance.

As soon as the plants have flowered cut off the tops and destroy them, for should any disease have accidentally obtained a foothold it may be checked and prevented from attacking the young growths. The time to divide the stools is spring, retaining a few roots with each. The plants will succeed better if they are annually shifted to a fresh situation and soil, that is, if the plants are kept for more than one year, but I advocate the raising and growing of young plants annually, as on these the flowers are well developed.

This article would not be complete without a list of varieties. The following flower from July to November in sheltered situations: American Flora, white; Mme. E. Capitant, rose; Mrs. Forsyth, Blanche Colomb, white; Frederick Pele, crimson; Martinmas, pink; Hermine, lilac; Canari, pale yellow; Dr. Rozas, crimson; Empress of India, white; M. R. Bahnant, purple; Christmas Number, white; Crimson Marie Masse, bronze; Mrs. Hawkins, yellow; Ryecroft Scarlet, crimson; Harvest Home, yellow-red, tipped gold; Achievement, yellow; Lady Fitzwygram, white; Jules Mary, crimson; Mychett White, white.

JOHN DENMAN.

Brynbella, Tremearchion, St. Asaph.

MAY-FLOWERING LATE SINGLE TULIPS.

THIRTY-FOUR EXCELLENT VARIETIES.

AXIMENSIS.—Rich glossy crimson, globe-shaped, gold and green at base; from Swiss pastures.

Billietiana Sunset.—Bright fiery red and gold; very brilliant.

Picotee.—Waxy white, with faint line of pink at edge, reflexing at the top.

Elegans alba.—Glistening satiny white, with Picotee edge; very lovely.

Elegans maxima lutea.—Magnificent orange, the colour of Eschscholtzia californica; stiff, erect, pointed twisted petals; very vigorous.

Leghorn Bonnet.—Glistening maize-yellow, with stiff, broadly pointed petals of great substance; very fine.

Bouton d'Or.—Bright orange, lovely cups of bloom; "F. W. B.'s" favourite Tulip among old-fashioned border Tulips; excellent for pots.

John Ruskin.—Orange-yellow, shaded pink at the edge of petals; closely allied to Fairy Queen; immense proportions.

The Lizard.—A striped form of Fairy Queen; very handsome.

Fairy Queen.—Large, globular, Magnolia-shaped flowers, of a rich heliotrope and yellow when young; when older, a dove colour.

Nigrette.—Black, glistening, Bouton d'Or shaped, and very effective flower.

The Fawn.—Unique in colour; like that of a dove or fawn, Bouton d'Or shape; very rare.

Ixioides.—Large, soft canary-yellow, with black base; very distinct. Award of merit, Temple show, 1901.

Othello.—Glistening velvety crimson, with an intense black centre; very fine.

La Merveille (Vilmorin).—Lovely coral or terracotta colour; very large, twisted petals; sweet-scented; splendid.

Mauriana.—Brilliant orange-scarlet, with rich centre of old gold. Certificate, Temple show, 1901.

Marjoleta.—Creamy white, with cerise edge; from the Tyrol pastures.

Maculata globosa nana.—Globular shaped, shining crimson, with deep black and gold base; very chaste.

Globosa The Nigger.—Rich velvety crimson, with jet-black base; very distinct.

Reflexa Mars.—Shining crimson, reflexed petals, rich black and yellow centre; splendid.

The Moor.—Rich scarlet, with jet-black base; a very fine late variety.

Maculata globosa grandiflora.—Immense velvety crimson, with intense dark and gold base; the finest of its colour.

Spathulata aurantiaca maculata.—Rich orange, with dark zone at base; in full sun it is magnificent.

Spathulata aurantiaca.—Brilliant orange-red, with rich centre of old gold; very fine.

Shandon Bells.—Sugar-loaf, pyramidal, or globe-shaped bloom of apricot-yellow at first, changing after a week to deep magenta; magnificent.

York and Lancaster.—A fixed sport from the former, lovely apricot at first, changing in colour to the old York and Lancaster Rose of gardens.

Silrer Queen.—A striped sport from the latter; very fine.



WEAVER PLUM (LIFE SIZE). (From a photograph from Mr. F. A. Waugh, Burlington, Vt.)

Didieri alba.—Silvery white, in shape like a Niphetos Rose, strong Sweet Pea perfume; very useful for cutting.

Emerald Gem.—Rich coral colour, with emerald-green base; Sweet Pea scented.

Fulgens maxima lutea.—The tallest and finest golden-yellow Tulip in existence; richly Primrose scented; magnificent.

Gesneriana lutea.—Intense golden-yellow, very large, Primrose scent.

Gesneriana lutea pallida.—Pale primrose, sweet-scented; several certificates all over England.

Macropsella.—I should be sorry to omit this gorgeous Tulip, particularly for its rich crimson colour and lovely zone of black and gold centre; Sweet Pea scented.

Firefly.—Rich coral or terra-cotta colour, with green and gold base; Sweet Pea scented.

PHILOMEL.

CALYSTEGIA PUBESCENS FL-PL. (DOUBLE BINDWEED).

ALTHOUGH it is not desirable to plant this in close proximity to other flowering plants in borders or beds, yet the extreme beauty of its pink double flowers and the twining habit of growth should commend it for clothing low walls or trellises, or for covering any low unsightly object in the garden. The plant is of easy cultivation, so much so that its creeping roots will soon enroach if not kept within bounds, hence the necessity for planting it away from other plants. A rich soil suits the plant best, and it then twines to the height of 6 feet. A few strings stretched the required height or a few small Pea sticks placed against the object it is intended to cover will suffice for the clinging growths to lay hold of. In mild districts this plant flowers from the middle of June onwards; but of course in colder localities few flowers are to be had until the month of July. The plants will be benefited by an occasional application of liquid manure during active growth, especially

if the soil in which they are planted is poor.—H. T. MARTIN.

PACKING GRAPES.

NOR the least important of the operations in connexion with the management of the Grape Vine is packing the bunches for safe transit by rail or road, either for long or short distances. In consequence of the enormous increase in Grape culture during the last twenty years, both for market and for

private use, increased attention has been given to this important subject, not only by growers generally, but also by the Royal Horticultural Society, in the encouragement they have given to good packing by the liberal prizes offered at their great annual exhibition of fruit held at the Crystal Palace during every autumn. In consequence of this increased attention and encouragement given to the subject, it is now generally admitted that the best way in which Grapes can be packed for travelling is by the use of cross-handled baskets of various sizes, according to the weight desired to be sent at a time. The most convenient size for marketing is one that will hold about ten bunches weighing from 12lb. to 15lb.

The baskets are strongly but roughly made of white wicker, and should be deep enough to accommodate a good sized bunch resting its full length on the side of the basket. The basket is prepared as fellows for the reception of the Grapes: Wood shavings are placed in the bottom to the depth of half an inch, and on this a layer of cap paper, lining the sides also with the same paper. The bunches are then placed in the basket in an upright position resting on the sides, and the piece of shoot (which should always be cut with the bunch) is then tied securely to the rim of the basket, allowing the base of the bunch to rest firmly in the bottom. Thus bunch by bunch (placed close together) should be fixed until the whole of the sides of the basket has been filled. By this system it is necessary for its success that the bunch rests well on the bottom to take off its weight. Cover the top of the basket with paper securely tied on and the Grapes will travel any distance without the least injury to bloom or berry. Another successful way favoured by many—after filling the bottom with wood shavings and papering the basket as above stated—is to place the basket on end at an angle of 45°, and then gradually build up the bunches from the bottom upwards one against another firmly placed until the basket is filled,



ALICANTE GRAPES IN "BABY" BASKET.



THE "BABY" BASKET IN HAMPER READY FOR JOURNEY.

This is an excellent way, and more weight can be got into the basket than by the other method, the only danger being that possibly some of the bloom may be rubbed off all round the bunch, whereas with the other the front of the bunch is clear of contact with anything. The efficacy of packing in baskets instead of in boxes lies in the fact that railway officials dare not throw and bang baskets about as they do boxes, but are compelled to carry them by the handle, thereby securing immunity from the porters' negligence, and a safe delivery of the Grapes at the same time. A label should be attached to each basket stating the nature and weight of the contents, and indicating the time when delivered to the railway company for transit, so that in case of delay the company can be held responsible. A. P. H.

NOTES FROM NORTH WALES.

THOUGH we have had such a cold spring and the warm weather has only just commenced (May 24) it has suited the spring flowers. The garden is gayer than ever, and the colours of the flowers are so much richer, as there has been so little hot sun to fade them. They have also lasted longer than usual for the same reason. Against the house, which is of red brick covered with Ivy, Clematis montana, and other creepers, we have had a very effective bed: bright yellow Wallflowers at the back, Aubrietias forming a thick carpet, very pretty in its various shadings, and rising out of this single White Swan Tulips. The bed is edged with white Daisies. The White Swan Tulips are very graceful, open or closed, and have lasted for several weeks. Another arrangement opposite the house would have been equally pretty if the sparrows had not taken a good deal of the Aubrietias to build their nests with, the little wretches! It has Aubrietias as a groundwork with clumps of Proserpine Tulips (a lovely tall "old rose"-coloured sort) rising out of it, edged with pink Daisies, and at the back, running into the shrubs, tall Forget-me-nots. In the distance across the bit of rough grass, which is untidy now with foliage of Daffodils and Crocuses, which must not be cut down yet, there is a blaze of colour. An oval bed with a few shrubs in the centre is edged with a thick border of three year old plants of yellow Alyssum, a very bank of gold; the extreme edging is of red Daisies. Behind the Alyssum rise tall red gesneriana and parrot Tulips, in places leaning over on to the yellow Alyssum. Behind again, here and there, are double Farze bushes in full bloom—a gorgeous effect. In this same bed are large clumps, many years old, of scarlet Oriental Poppies, and of a pale mauve-blue German Iris, which always blooms profusely. These come out together when the Alyssum and Tulips are over, and make another grand feast of colour.

The spring flowers in front will be taken up soon and half hardy annuals put in their places, which will keep the bed going till the frosts come. We are pleased also with the clumps of pale pink Anemones between clumps of Her Majesty Pink edging the long Rose border. The Pinks are not in flower yet, but their grey foliage goes well with the pink Anemones, as we expected.

Anemones grow wonderfully with us; they evidently like the hot stony soil when given plenty of manure, and do not mind the fully exposed situation. Perhaps that is why they are called wind flowers. I have a long row of them edging a herbaceous border, all raised from the seed of one lovely bloom which was very double and salmon-coloured. The seedlings are of every shade of red, pink, and purple; selfs, shaded ones, mixed colours, and pure white, &c. I have just measured some of the largest—they

are 5 inches in diameter. A vivid scarlet has ten flowers out together, a white shaded with a deep band of salmon is equally large and vigorous. These plants are three years old, and I have not taken them up since they were first planted. They are so easy to grow here that we have them all about the garden, and they are most valuable for cutting in the early spring when other flowers are scarce.

The foliage of the individual Anemone plants is as varied as the flowers. Some have very finely cut leaves tinted or edged with reddish brown, others have very much coarser foliage and of quite a different shade of green. I like the finely cut tinted foliage combined with large self-coloured flowers best.

The double Cherries are very beautiful now, contrasting with the dark leaved Berberis and young leaves of the Copper Beech. The background of blue Welsh hills shows them off. But as when I last wrote early in April so now that "unorthodox rockery" bank is still the chief point of interest in the garden; going down the steps opposite the

is plenty of white still on the rockery, the perennial Iberis is a mass of snow-white bloom, a Daisy-like cerastium runs neatly over the stones, and many sorts of Saxifraga are in bloom, nearly all being white.

It is difficult to enumerate all the treasures that cover the bank. Iberis gibraltarica grows very freely and is now covered with its pale mauve flowers; alpine Phloxes, pink and lilac; Androsace villosa, pale yellow; Cheiranthus alpinus, Sedums, and Saxifrages of many sorts all do well, but have to be watched carefully to prevent the larger plants from smothering them. Anemone Pulsatilla and Geum montanum are in seed now, and their feathery seed vessels are almost as pretty as their flowers.

Soon the rock Roses will keep the bank gay for some weeks longer, and Enothera marginata will delight us in the evenings with its large white Eucharis-like flowers. It seems to delight in the poor soil and full sun, and comes up everywhere, even in the path. I counted seventeen flowers out together on a patch of it one evening



MAGNOLIA STELLATA.

house and looking along it it is a blaze of colour. The predominant colour is yellow, so bright that even on a dull day it has the effect of sunshine. Large bushes of the double Gorse overhang the bank and scent all the garden round. Clumps of yellow Alyssum, balls of "gold dust," are almost too frequent, having seeded themselves freely, and overflow in places on to the path below. The Aubrietia still makes purple patches of varying shades.

Many healthy tufts of Narcissus poeticus full of flowers pierce the low-growing plants—I think they must have been brought by birds or mice, as I do not remember planting them; at any rate they are firmly established, and do not seem to mind the dryness of the bank—they break the line and have a good effect.

The clumps of German Irises of different colours at the edge of the shrubs on the top of the bank are valuable as foliage plants even when out of bloom, but they are now full of spikes of fat buds, and the earliest, Iris florentina, has one flower out. Although these Irises cannot even get the benefit of the rain among the shrubs and overhanging trees, yet they never fail to bloom profusely. The white single-flowered Arabis alpina is nearly over, there

last summer, and its scent is particularly good, with a suspicion of lemon in it. It is not overpowering like that of so many night scented flowers.

Near Llangollen.

E. LLOYD EDWARDS.

TWO GOOD FLOWERING SHRUBS.

MAGNOLIA STELLATA.

IN common with most, if not all, writers, I was quite unaware until recently of the existence of any form of this Magnolia other than that which is so popular, and forms such a delightful spring feature when laden with its charming blossoms, each composed of a dozen or more pure white strap-shaped petals. This semi-double form would, however, appear to be not the original species, but a variety thereof, as a single flowered kind has recently come under my notice. It is at Kew, where last summer I noted two plants in the collection of Magnolias, which, though bearing the specific name of stellata, were far more vigorous and robust in every way than the stellata of gardens. They were so



SPIRÆA FLAGELLIFORMIS IN THE ROYAL GARDENS, KEW.

striking that I resolved if possible to see them in bloom, and was then surprised to find the flowers single, with a little pinkish tinge on the exterior. Though decidedly less attractive from a floral point of view, this single-flowered form of *Magnolia stellata* is decidedly interesting. Professor Sargent in his "Forest Flora of Japan" refers to various plants, among them being *Magnolia stellata* in the following terms: "A number of shrubs, familiar in western gardens, and usually supposed to be Japanese from the fact that they were first known to Europeans in Japan and were first sent from that country, are also Chinese or Korean, and are only found in gardens or in the neighbourhood of habitations." The opening lines of this note are slightly misleading, as there is a form of the common kind with pink-tinged blossoms for which Messrs. Veitch received an award of merit at a meeting of the Royal Horticultural Society nine years ago.

SPIRÆA FLAGELLIFORMIS.

This is one of the most graceful of all the *Spiræas*, and has many synonyms. Of its beauty there is no question, as the accompanying illustration shows, the arching stems being weighted with the wealth of white flower clusters. It is best planted in a group as shown.

T.

TREES AND SHRUBS FOR ENGLISH GARDENS.

(Continued from page 352.)

TRANSPLANTING OF EVERGREENS.

THIS question, especially as regards the time of year when it is best done, is often discussed among gardeners. All practical men agree that the two worst seasons are winter and early spring, but they differ as to whether autumn or late spring is the better. Perhaps there is not much difference in ordinary seasons, but for my part I prefer early autumn. What one may term the leading principle of transplanting evergreens is this—all disturbance of the roots should take place whilst they are active,

Thus, if autumn be chosen as the transplanting season, it should be so early that the roots have time to get hold of the soil again before the cold weather sets in and arrests root action. On the other hand, if planting has been delayed until spring, it should be deferred till root action has again commenced.

I do not think the reason of this as regards the time of transplanting is far to seek. Although growth in evergreens, as in deciduous plants, practically ceases in winter, there is this difference between them—that while transpiration has almost or quite stopped in the case of deciduous plants, it still goes on with a certain amount of activity in the evergreens. Consequently, the loss of the moisture-absorbing root-tips, which transplanting involves to a greater or less extent, is a more serious matter to a plant bearing its full crop of leaves than it is to one that, like a deciduous plant in winter, is making no demands on its root system. Thus is shown the necessity, or at least the desirability, of transplanting evergreens at a time when there is sufficient activity at the root to renew the feeding root-tips quickly enough to prevent a long cessation of the moisture supply. I look upon autumn as the best time, because the weather then is usually moist and nearly always mild up to Christmas. The plants, therefore, have time to get settled and their roots well to work again before the frosts of winter, and, what is still more trying, the dry east winds of spring arrive. On the other hand, late spring is often more convenient; in nurseries, for instance, transplanting has to be deferred till after the selling season, and if it is done in late April and May, and the weather then happens to be showery, success is almost as certain as in autumn. Unfortunately, the weather in England, even in May, is most uncertain. Last year the late spring and early summer were dry, almost rainless, and I know that in some nurseries hundreds of newly transplanted evergreens were lost in consequence.

There are some evergreens that can, with proper care, be removed with perfect safety at

any time, except perhaps from July to September. Rhododendrons are an example. During the last ten years I have transplanted them during every month of the year except July and August. But in the case of Rhododendrons, and indeed most evergreen ericaceous plants, the problems of transplanting scarcely arise, simply because the fine fibres hold the soil so completely that the root system can with due care be removed practically intact. For the same reasons, very careful transplanting, such as is practised with a transplanting machine, may also be done at almost any season.

When the roots of large evergreen plants have been unavoidably damaged, it is often a good plan to remove a portion of the leafy branches. This helps to restore in some measure the balance between root and top. The plant will frequently do this itself. Hollies, for instance, often lose a large proportion of their foliage after a spring transplanting. It is one of the surest signs of success, just as the shrivelling of the leaves on the branches is the worst. Evergreen Oaks also furnish other examples. I remember a good proof of the value of late planting of evergreens being furnished here by the Holm Oak (*Quercus ilex*). A gap in an avenue of these trees had to be filled up, and a specimen was

planted from the nursery at the end of April. The weather that followed was not unfavourable, but by the beginning of June I saw it was not going to live. However, it was then replaced by a similar plant, the young shoots on which were already 2 inches or 3 inches long. The young shoots flagged a little at first, but the roots soon got hold of the soil, and the tree is now one of the healthiest specimens in the avenue. *Quercus ilex*, however, is notoriously bad to transplant.

PRUNING OF EVERGREENS.

Evergreens differ from deciduous plants in regard to pruning time. Most deciduous things may be pruned at any time between the fall of the leaf and the recommencement of growth in spring; but evergreens should never be pruned in late autumn or winter. For plants that are grown merely for foliage sake, and where the crop of blossom is of no consequence, pruning should be done just as new growth is commencing. In the case of flowering shrubs like Rhododendrons or Berberis, it should be done as soon as the flowering season is past.

As a matter of routine cultivation, however, and as an aid to improved health or freedom of flowering, pruning is not so necessary for evergreens as with many deciduous plants. A Rhododendron, a Pieris, a Berberis stenophylla, and all similar things never want pruning in the sense that a *Spiræa* or a Rose does. It may, of course, be necessary to reduce them from considerations as to space or as to some desired shape, and this, as I have before stated, ought to be done immediately after flowering.

CLIMBING EVERGREENS.

One of the peculiarities of the evergreen class of plants is the marked absence of climbing species in cool temperate countries. I mean, of course, true climbers, not the numerous things that are made to do duty as such on walls, &c. If one takes up a tree and shrub catalogue of even the best nurseryman, one is struck by the fewness and poor quality of the

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evergreen climbers offered. In spite of the fact that the cool temperate regions of the earth have been so thoroughly ransacked during the last century, no plant has ever been found that equals or even approaches in value the common Ivy and its varieties for the special purposes for which they are adapted. The best that are available are the Jasmine, *Ercilla volubilis* (*Bridgesia spicata*), *Smilax*, *Clematis calycina*, and tenderer things like *Lardizabala*, *Passiflora cœrulea*, &c.

Evergreens as a whole are very much neglected in ordinary gardens. I mean many people go on using the same old things over and over again, generally *Aucuba*, *Portugal* and *Cherry Laurels*, *Rhododendron ponticum*, and such like. The *Cherry Laurel* especially should be rigorously excluded from the shrubbery. Few other plants can withstand its greedy searching roots, and its vigorous branches and big leaves kill all other leaf growth near them. Grown in the proper way, that is, as an isolated shrub with abundance of room to develop its long, graceful branches and brilliant green leaves, the *Cherry Laurel* is a beautiful evergreen. It is especially useful in rather shaded semi-wooded tracts. But, grown as it so often is, jammed up and smothering out other things or kept within bounds by a merciless and beauty-destroying knife once or twice a year, it has wrought more harm than good in English gardens.

W. J. BEAN.

(To be continued.)

THE UNHEATED GREENHOUSE.

XI.—HARDY PERENNIALS FOR SPRING.

THERE are two seasons when a few good herbaceous perennials may be used with advantage for the decoration of the unheated greenhouse. In the earliest months of the year, while winter still lingers, they are wanted, not only for the sake of variety, but that we may forestall the tardy spring. Again, towards the end of September, when the first frosts may come any day to rob us of our border flowers, it is well to be able to prove that the plant world is not peopled solely with *Chrysanthemums*. In the one case, they must be gently forwarded by all means at command; in the other, with some exceptions, they must receive special treatment to retard their flowering. In a greenhouse in which absolutely no means of heating exists, the gentle persuasion to earlier flowering of hardy plants afforded by a glass shelter is of special value. Another aspect of this will be treated of again under the head of the alpine house, but a good many perennials of larger growth than most alpinists, suitable for an ordinary greenhouse, may be mentioned here.

The *Christmas Rose* (*Helleborus niger*) can fairly claim a foremost place in the winter list. These are not always easy to manage as pot plants. One of the most successful growers I ever knew was a farmer's wife, whose *Christmas Roses* were always to be envied. These used to divide their yearly cycle between a deep earthenware washing pan in which they flowered and a shady border under a north wall to which they were banished as soon as the flowers were past their best, but not neglected, for they received a generous mulch of farmyard manure and an occasional drenching with rain-water, not wholly free from soapsuds, during hot and dry summer weather. When the buds had gained some size in the late autumn, the clump was carefully lifted without disturbing the roots and reinstated in the brown pan, whose winter station was on the broad window sill of the best parlour. Here, sheltered from wind and rain, the flowers opened, pure and fresh, in due season. No better system than that adopted by my old friend can be followed, though a broad deep garden pan with drainage holes complete may be substituted as more fitting for the greenhouse, though it is doubtful whether it would prove an actual gain.

To prepare such a plant the rootstock of an old clump must be carefully broken up into pieces, each with growing buds and some of the black fibrous roots attached, from which the species derives its name. The only right moment to do this is just when the greening sepals show that the flowering time is over and active root growth is setting in, and these stems should be cut away to prevent an effort to seed. After planting the pieces, not too thickly, the pan should be plunged, preferably in a border shaded from midsummer sun, and the surface mulched to keep the roots moist and cool. It is very possible that there will be no flowers the first season, as *Hellebores* dislike root disturbance. After the first year the plant should be turned bodily out of the pan into the border during the summer and replaced in autumn, which can be done with very little meddling with the roots.

There are a good many well-known garden plants which may usefully be employed in the same way for the cold greenhouse. *Orobis vernus* is valuable for pots early in the year, when its clusters of blue-purple Pea-flowers are very spring-like and welcome. Several varieties of it exist, and it is easily raised from seed. The large-flowered *Forget-me-not* (*Myosotis dissitiflora*) is a gem of the first water, and may very successfully be grown in pots or in zinc troughs about 4 inches wide as an edging for groups of plants to hide unsightly pots. These troughs may be made of any size and shape, and have been found extremely useful filled with growing plants of this *Forget-me-not* or of white *Rock-ress* (*Arabis albidia*) in church decoration, especially for windows, being less perishable as well as less formal than many of the designs used for the purpose. Shelter in early spring is peculiarly acceptable to this *Forget-me-not*, as the first flowers are often injured by frost. It is a good plan to grow some spare plants in an outside border that they may scatter their seeds, and to use these strong self-sown seedlings, which answer far better than cuttings, for potting in the autumn. In Italy the large leaved *Saxifrage* (*S. crassifolia*) is used as a pot plant in all sorts of positions—on terrace walls, on the balustrade of a sunny loggia, sometimes even in the half shadow of an over springing archway. The pink clusters of flowers rise well above the thick oval leaves, and the good effect of the old-fashioned plant thus grown takes one by surprise. To get this ruddy flush of leafage the plants must lie out of doors, and be brought into the greenhouse only in the depth of winter. There is a charming white variety of this species very little known, and both should be noted.

Some of the *Droniums* are bright and sunny looking. The dwarf *D. caucasicum* responds quickly to kindly shelter, and opens its big yellow Daisy-like flowers very early in the year. The tall *D. excelsum* comes into bloom a little later. It is apt to flag in the hot spring sunshine, and must be kept as cool as possible.

Another favourite and good plant is our old friend *Dielytra*, now called *Dicentra spectabilis*. It is a hardy perennial, but in some parts of the country the succulent stems and sprays of graceful pink flowers are often damaged by late spring frosts.

(To be continued.)

SOME IMPRESSIONS OF THE MIDLAND DAFFODIL SHOW.

THE recent show held by this society will probably rank as the most magnificent exhibition of Daffodils and other spring flowers which has yet been seen in this country. Competition in all the classes was very keen, and the trade groups were of a high standard of excellence. Taken as a whole the season has been an excellent one for Daffodils, the mild showery weather which prevailed at the end of March and during the first fortnight of April proving extremely favourable. The two exhibits which were staged by Miss Willmott and the Rev. G. H. Engleheart respectively were the centres of attraction to the Daffodil enthusiast. Miss Willmott's group of twelve seedlings—not in commerce—which secured the silver bowl given by Mr. Robert Sydenham, contained no less than

seven varieties which were certificated, two being awarded first-class certificates, while the others received awards of merit. Charles Wolley Dod was quite the finest flower in this exhibit, and has wonderfully improved since it was first exhibited in 1900. This is well proved by the fact that this year it was awarded a first-class certificate, and also a silver medal as the best flower in the *Medio-Coronati* group. It has been already described in *THE GARDEN*, so it will suffice if I mention that it has a long yellow crown prettily fringed and a perianth of pale yellow. One of the most noticeable points as regards Mr. Engleheart's renowned seedlings of the last few years is the important part which the little *N. triandrus* has played in their production. Robert Berkeley, Earl Grey, Countess Grey, Lilian, Ariadne, Moonstone, and others too numerous to mention all show their parentage to be derived from *N. triandrus*, and in each case there is an increase of size in the flower.

In the Barri section, too, Mr. Engleheart showed some wonderful flowers, very highly coloured and refined. *Firebrand* was perhaps the brightest; while others were *Sceptre*, which has a creamy yellow perianth; *Vivid*, almost as bright as *Firebrand*; and *Occident*, with scarlet cup and segments of soft yellow. *Astrardente*, *Egret*, *Imogen*, and *Bianca* are probably four of the finest seedlings of the *Burbidgei* section which have yet made their appearance. The first three varieties have been previously noticed and described in the report of the Midland Daffodil show. *Bianca* is, however, quite distinct from these, in the flattened cup which is smaller, and of a deep lemon yellow. The segments are very elegantly shaped and of a snowy whiteness. Another most interesting flower exhibited by Mr. Engleheart was the result of *Ornatus* crossed with the *Tazetta*—*Bazelman major*. This is stated to be quite hardy. In the poetic section Mr. Engleheart has made great strides as regards the flowers. It is to be hoped at the same time that habit is also receiving his attention, as, after all, the chief fault in this section seems to be the long weak stems which during rain or wind often allow the flowers to fall to the ground and be splashed with dirt. If only these new varieties, with their broad firm segments, possess stouter and shorter stems than the type, then we shall indeed have a great gain. It is certainly to be hoped that such noble flowers as *Rhymester*, *Laureate*, and *Virgil* will increase quickly, so that they will soon find their way into our gardens.

Not the least interesting feature of the show at Edgbaston was the class for *Lilium Harrisii* in pots. Mr. J. A. Kenick's group was placed first, and next to it that of Mr. Isaac Cooke, of Shrewsbury. To the ordinary visitor the wonderful display of *Anemones* exhibited by Messrs. Reamsbottom and Co., of Geashill, Ireland, proved the greatest attraction. The huge size and rich colour of the blooms bore eloquent testimony to the prevailing mildness of the climate, and that the soil *must* be all that can be desired is proved by the fact that Messrs. Reamsbottom have tried them with great success at Geashill planted in grass. In conclusion, I should like to suggest to the committee of the Midland Daffodil show that next year they should offer a prize for the best arranged and most suitable ornament (other than a bowl) for Daffodils. This would perhaps help to show the public how these flowers may best be arranged for house decoration, and also what shaped ornaments are the best to use for this purpose. At the conference held after the show Mr. Duncan Pearson rightly pointed out that the majority of ornaments are now made so that no flowers can be tastefully arranged in them. There is no doubt as to the truth of this, and I trust the society will endeavour if possible to give this matter their consideration.

Kidderminster.

ARTHUR R. GOODWIN.

BOOKS.

In my Vicarage Garden and Elsewhere.*—Those who have already read the chapters which compose this delightful book in the *Guardian*, *The Pilot*, and the *Gardeners' Magazine* will all the more welcome them in their



THE BLUE PUYA (PITCAIRNIA CERULEA) NOW IN FLOWER IN THE TEMPERATE HOUSE AT KEW.

(The tuft is 3 feet across, and the spikes represented are 3 feet high, and the flowers have been called peacock-blue *Lagereria*.)

present collective form, as a sequel to the author's former book, "In a Gloucestershire Garden." Among the mass of horticultural publications of the present day, the suppression of much of which would have caused no loss to readers seeking information and inspiration, these charming chapters, which are full of both these good qualities, come like a direct flowing stream of clear and sparkling water in refreshing contrast to much that is sluggish and turbid. Canon Ellacombe writes not only as a keen observer and lover of flowers, but as a botanist and scholar. Every page is full of instruction and matter of interest, brightly and clearly given, and there is not a dull line from cover to cover.

The Narcissus at the Antipodes.

—It is good to know and to see from this very interesting pamphlet how well Daffodils are grown and liked in the most distant parts of the Empire. Out of his own sound knowledge of his subject Mr. Wilson writes for others, saying: "It is desired to make these notes on a favourite spring flower as practical in their drift, and as succinct as possible, and with that in view I plunge at once into the middle of things, premising simply that what is

written is intended for the ignorant, and not for those already knowing in the flower." Mr. Wilson first describes the structure of the flower, and then the three great divisions and the groups they severally embrace. He then writes of general cultivation, which does not materially differ from our English experience except in the matter of time, for we have to remember that these seasons are reversed, and when he writes "They should be lifted before they have time to begin their first growth, preferably in December, certainly not later than January," we have to mentally substitute the June and July of our own year for the months named. Mr. Wilson also speaks of the interesting work of crossing and hybridising, describing the operation by text and diagram. It is a good Narcissus handbook for all temperate regions, and is amply illustrated with diagrams and reproductions from photographs. [We regret that this notice has been delayed.—Eds.]

The Story of Lost England.

—This is one of the most interesting of the delightful series of shilling books issued by Messrs. Newnes and Co. It is by Mr. Beckles Willson, and is the story of our submerged coasts, with twenty-four illustrations. The author has compiled the volume "in the belief that the historic diminution of the area of their country is a matter of

interest and importance to Englishmen, who exhibit so jealous a concern for every foot of soil possessed by their race in any quarter of the globe. The dates and circumstances of the submersion of many hundreds of square miles of territory and no fewer than thirty-four towns and villages, within the modern period, have not always, as the reader may well believe, been ascertained without difficulty. Concerning the present rate of erosion there are, I am sorry to say, no Parliamentary statistics, although it is one which might well offer scope for valuable official investigation." It is a book for every boy and girl; in fact, everyone interested in the British Isles.

MISCELLANEOUS.

THE INDIAN GARDEN IN SUMMER.

IN this country there is a widespread belief that successful gardening is confined to the all too brief winter months and that at all other seasons of the year there is very little to be done in the garden. Nothing could be more erroneous, as we shall presently show. It is not to be denied that the most pleasant season for gardening is our "cold season," when the garden is gay with our winter flowering annuals, most of them natives of Europe; when our kitchen garden is filled with European vegetables, all of

which tend to remind European residents in this land of their homes "far across the sea." But the summer is the season for the most important operations of horticulture, when Nature, in her tropical dressing, is in her most effective form. From March onwards our Orchids come into flower and give us a most gorgeous display. They have to be overhauled generally, and require considerable attention, which is repaid in full measure. That is also the month when our Lilies of various kinds are in their resplendent glory—the *Amaryllis*, *Crinum*, *Pancratium*, *Eucharis*, *Tuberose*, and many others are at their best and perfume the garden. *Hedychiums*, *Kaempferias*, *Cannas*, *Curcumas*, and a host of other tuberous-rooted plants are in full bloom, including *Achimenes* and *Caladiums*, *Ferns*, *Crotons*, *Anthuriums*, *Dieffenbachias*, *Marantas*, and hundreds of other ornamental foliated plants now assume their most brilliant tints. *Palms*, *Cycads*, and other evergreen plants are now in the full vigour of growth. Most of our flowering shrubs now show to the best advantage. *Lagerstromias*, *Magnolias*, *Gardenias*, and a host of others beautify the garden with their gorgeous and fragrant flowers. Many of the most beautiful climbers, such as *Passifloras*, *Cissus*, *Bignonias*, *Aristolochias*, *Ipomeas*, and others are at their best and brighten up the verandah, the trellis work screens, and plant houses. In fact Nature seems to revel in floral beauty, and so compensate us in some measure for the uncongenial weather.

The hot and rainy months of the year are also utilised for the propagation of plants. It should be a most busy time for the Indian gardener. Then, again, we have the choicest of tropical and sub-tropical fruits in season, the *Mango*, *Loquat*, *Litchi*, and even *Apple*, *Pears*, and *Grapes* are now in season, not to mention *Lemons*, *Limes*, *Melons*, *Custard Apples*, *Pine-apples*, and a host of others. In the kitchen garden we have most of the native vegetables, which are so much sought after. It may, therefore, be truthfully stated that the Indian garden in summer is not what one may be tempted to regard it. It is very full, and tropical vegetation is at its best. Indeed, it may be described as more attractive in summer than in winter. The amateur gardener is apt to lapse into carelessness, and leave the garden to the tender mercies of the *mallee*. The oppressive character of the weather is in some degree responsible for this, and is perhaps excusable to some extent; but to withdraw entirely from the personal supervision of the garden is to risk the loss of many valuable plants, for the *mallee* takes his cue from his master and does as little as he possibly can, with disastrous results to the plants. We advise all amateur gardeners to give up their early mornings to the supervision of their gardens, and look in particular to the watering of the plants, for the *mallee* always does this in a perfunctory manner, because he does not understand the science of plant requirements, being ignorant of the physiological aspect of plant-life. — *Indian Gardening and Planting*.

LILIES AT THE TEMPLE SHOW.

THE lover of this beautiful class of plants when at the Temple show invariably wends his way to the stand of Messrs. Wallace, of Colchester, who each year exhibits a representative group. Though nothing in the way of direct novelties were this year to be seen, a good collection was shown, some two dozen species and varieties in all. Overtopping the group were some stately shafts of *Lilium Henryi*, which, however, bore evidence of having been brought on in heat to thus anticipate their usual flowering season by some weeks. Possibly no two Lilies are so frequently confounded as *Lilium odorum*, or *L. japonicum* Colchesteri as it is often called, and *Lilium Brownii*, but this need not be, as they are so distinct in many ways. Visitors to the exhibition were there enabled to compare the two, as a group of each was shown side by side. The *L. Brownii* of the Dutch cultivators, with its long gracefully disposed dark green leaves and massive trumpet-shaped blossoms, ivory-white in the interior and heavily tinged with chocolate on the outside, is usually preferred to the other (*L. odo-*

* "In my Vicarage Garden and Elsewhere." By the Rev. Henry N. Ellacombe, M.A. John Lane, London and New York. 1902. Price 5s.

† "The Narcissus at the Antipodes." By A. Wilson, M.A. J. R. Stark and Co., Dunedin, New Zealand. 1902. Price 2s. 6d.

‡ "The Story of Lost England." By Mr. Beckles Willson. Newnes and Co. Price 1s.

rum), in which the leaves are shorter, broader, and of a paler green, while the flower also is not so long, the chocolate tinting less dense, and the interior has more of a yellow tinge. The bulbs, too, are very different, the yellowish ones of *L. odorum* being particularly liable to decay after flowering, though Mr. Wallace tells me there is an improvement in this respect within the last year or two. *Lilium excelsum* or *testaceum*, which formed such a feature at the Lily conference at Chiswick last July, was also very much in evidence, despite the fact that it is much scarcer than was at one time the case. This belongs to the Martagon or Turk's Cap section, several other members of which were shown, prominent among them being Japanese Martagon, *L. Hansoni*, with yellow petals as massive as if cut out of wax. This has yielded two hybrid kinds, viz., *L. Marhan*, between *L. Martagon album* and *L. Hansoni*, and *L. Dalhansoni*, in which the dark form of Martagon known as *dalmaticum* was used. As might be expected from its parentage, the flowers of Marhan are lighter in colour than the other, which last is of a peculiar bronzy brown lit up with yellow. The best form of *L. Martagon album* was also represented. When in a thriving state it is one of the most select members of the genus, and one whose bulbs always realise a good price. *L. tenuifolium* with its slender stems and bright red flowers, whose petals gracefully reflex, was very distinct in colour from any of the rest.

Lilium longiflorum giganteum, the best of this group, made a goodly show, while in the variety *foliis albo marginatis* the leaves with their clear white border are as effective as some of the *Dracenas*. That near relative of *L. Krameri*, namely, *L. rubellum*, was also in good condition.

Numerous examples of the upright flowered cup-

shaped Lilies were shown. They consisted of varieties of the European *L. umbellatum* and the Japanese *L. elegans* or *thunbergianum*. Chief among the forms of this last were the little apricot-flowered *L. alutaceum*, which is one of the dwarfest and cheapest of them all; *atrosanguineum*, with deep-coloured flowers; bicolor, whose petals are rich yellow, flamed with red, but unfortunately somewhat flimsy, so that they do not last long; Orange Queen, a fine sturdy form; and Van Houttei, with deep blood-red blossoms. *L. umbellatum* was represented by the deep red forms erectum and incomparabile, as well as the lighter tinted Tottenhamense. In another part of the exhibition was a magnificent group of the Japanese *L. longiflorum* as grown for market, three bulbs in a pot; and elsewhere *L. speciosum rubrum*, the produce of bulbs that had been retarded, was very noticeable, the flowers being well developed and of a fine rich colour. H. P.

THE FLORIST'S TULIP.

THE singularly interesting and lucid lecture which Mr. A. D. Hall, Principal of Wye Agricultural College and the recently appointed successor to the late Sir John Lawes at Rothamstead, delivered before the Fellows of the Royal Horticultural Society, at the Drill Hall on the 20th ult., had the merit of making, to all who heard him, quite plain the secrets of the Tulip cult, as existing in the National Tulip Society. It was clear, lucid, and eloquent, as well as thoroughly consecutive. Whether tastes may run in the direction of the gloriously-hued garden Tulip, or with Mr. Hall for the beautifully and delicately marked florist's section, the latter, which just now seems to have so few devotees, could but be regarded with much greater

esteem at the close of the lecture than before it was heard. It is greatly to be hoped that when the National Tulip Society holds its next show at the Drill Hall some one will do that for the garden section which Mr. Hall has done so admirably for the florist's Tulip. The latter is not a flower that produces any striking garden effects. It is perfectly hardy, needs no coddling, and does better in poor soil so far as relates to the production of its beautiful markings rather than in that which is enriched. Manure dressings rather tend to the demoralisation of these singularly refined markings, even in the most perfect varieties. It is only when the flowers are in bud that it is well to fix over them—some 2 feet to 3 feet above—ordinary frame lights or a light stretch of tiffany, to shelter them from hot sunshine, late frosts, or heavy rain storms. These things are even useful to the garden Tulip, but they must, in common with all garden flowers, bear with the weather as it comes. Purity of colour in the ground is an absolute essential to a good Tulip. Quality is evidenced or otherwise in the base of the flower, which must be clear white or yellow, and be devoid of all impurity or discoloration.

Such a requirement may seem of little moment in a garden Tulip, and so it is; but the Tulip florist has to regard true floral essentials where show flowers are under consideration. We see in the Darwin Tulips something of the florist's labours in the noble form of flower, the broad petal, the rounded margin, and remarkable variety of coloration, hence it will not do to treat the Tulip florist as a monomaniac, for his labours in the years that are past have made their mark on garden as on rectified Tulips, and gardens have immensely gained. If the florist's Tulip has to-day few cultural admirers, at least it is not possible to regard the singularly beautiful feathered and flamed sections, other than as having features which charm and please the more they are understood. Mr. Hall did so much to make plain those features that probably many of his hearers arose from their seats far more appreciative of the florist's Tulip than they had previously been.—A. D.

RARE AND INTERESTING PLANTS.

IN THE GARDEN, May 24, 1902, page 339, will be found notes of several interesting and beautiful plants at that time in bloom in the Royal Gardens, Kew. One was the blue Puya (*Pitcairnia coerulea*), and the other *Cymbidium rhodochilum*. We have the pleasure of illustrating these lovely flowers, and they are worth a visit to Kew to see them, the *Pitcairnia* in particular. It is in the Mexican portion of the temperate house.

CORRESPONDENCE.

(The Editor is not responsible for the opinions expressed by correspondents.)

NOTES FROM BAVARIA.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—Confirming the view of Mr. H. J. Clayton (page 320) as to the influence on the production of cones of last year's excessively dry weather, I send you two Pine twigs laden with them. The Pine forests this spring presented quite an unwonted appearance, every twig of the trees from tip to base being weighed down heavily with these ruddy-coloured male cones. Holiday-makers struck with this uncommon sight on their excursions bring home armfuls of twigs.

Another note (page 326) on *Cardamine rotundifolia* prompts me to break a lance in favour of *C. pratensis* fl.-pl., which certainly deserves more consideration than it receives. I do not know whether this truly charming wild flower is so rare in gardens because it is not sufficiently known, or whether it is because it is "only a wild flower." For my own part I think it vastly superior to much rubbish that usurps the space on which this delightful little beauty would produce a ravishing sight. The moist edge of a pond is the proper place for it, and once planted there it will fight its way through thick grass and flower continuously for three to four weeks, ever increasing in beauty until the elongated panicles bear a striking resemblance to somewhat reduced spikes of the palest and most delicately-coloured lilac stocks.

Some of the individual flowers are almost an inch across. Seen in a mass it is very lovely, so graceful, so uncommonly refined, and so delicate in colour, that I consider the florists should take it in hand and endeavour to raise a strain with flowers the size of Stocks. On some meadows only the single type occurs, an insignificant and worthless plant; in other places double flowers alone are found. I fear the flowers I have sent will not bear the journey well; they very quickly fade when cut.

E. HEINRICH.
Planegg, near Munich, Bavaria.



THE NEW CYMBIDIUM RHODOCHILUM IN FLOWER AT KEW.
(The spike is nearly 2 feet long, and each flower is 3 inches across, the sepals and petals pale Apple green spotted with brown, and the large crisped lip of a bright crimson colour.)

GARDENING OF THE WEEK.

KITCHEN GARDEN.

AT the time of writing these notes one might well imagine by the weather that it was March. We are apt to forget, but I certainly cannot call to mind such an ungenial May as the present one, very little rain or sun, the wind north or north-east the greater part of the time, and frost here nearly every morning. Everything is very backward, many of the early crops have suffered considerably, and some are completely ruined. However, much will have been saved if precautions were taken to protect the more tender crops.

POTATOES.

These, fortunately in many places, were not sufficiently advanced to have been damaged to any great extent, and if the green tops have been covered with a little soil will be practically safe. Immediately a favourable change in the weather occurs no time should be lost in thoroughly flat-hoeing between the sets on a fine day. As soon as the growth is long enough the earthing up should be completed, and where these have been planted a wide distance apart Autumn Cauliflowers and other Winter Greens may be planted between them, and the earlier this is done the better it will be for both crops. The Potato haulm will require to be kept within bounds by carefully laying them over once or twice during the growing season to prevent the plants becoming too much drawn. Where kitchen garden space is limited it is absolutely necessary to utilise the ground in this way.

BRUSSELS SPROUTS.

Complete the planting of these as speedily as possible, also Autumn Giant Cauliflowers, Self-protecting, Snow's Winter White, and Christmas Broccoli. Plant at a good distance apart and make the ground thoroughly firm about the roots.

COLEWORTS.

Two or three sowings at least should be made of these in an open position. Rosette Colewort and London Green are both excellent varieties, and always much appreciated during autumn and winter. The first sowing should be made about the second week in June, another about the end of the month, and the last the second week in July; make a plantation from each of these. It is not always that plants from the last sowing make pretty heads such as those from the earlier ones; nevertheless, given a favourable season, these will be most useful during the depth of winter, and stand severe weather much better than the earlier ones.

RUNNER BEANS.

Make another sowing of these in the open in trenches as advised for the earlier sowings. These will come in just right for the later supplies.

VEGETABLE MARROWS.

All the later plants should now be placed in their permanent quarters. Give them some protection for a short time during cold nights. If hand-lights can be spared so much the better. When these are grown on the flat large holes should be taken out and at least one good barrow-load of manure placed in each. All unsightly rubbish and leaf heaps when in sight should be planted with these.

GOURDS AND PUMPKINS

should also be planted, and plenty of good farmyard manure given them. They are highly attractive and ornamental, and in addition many of them are edible and very serviceable during winter. These may either be grown about the shrubberies, trained up poles or on buildings; they make very beautiful pergolas also.

RIDGE CUCUMBERS.

Good strong plants should now be planted. These do best when a slight hot-bed is made up, in a sheltered position facing south, when just sufficient warmth from the manure and leaves to give

the plants a start is assured. These also do best when hand-lights can be placed over them for about a fortnight, and see that they are quite free from black aphid before planting.

E. BECKETT.

Aldenham House Gardens, Elstree, Herts.

INDOOR GARDEN.

CHIRYANTHEMUMS.

No stated date can be given for the final repotting of these. One can only tell by an examination of the roots and the condition of the plants. The compost for this potting should consist of three parts fibrous loam, broken up roughly, retaining only the rough portions. To one part of dried horse manure add a 6-inch potful of half-inch bones, one of bone-meal, one-half potful of soot to every two bushels of soil, with a liberal admixture of wood ashes and coarse silver sand. These ingredients should be thoroughly mixed several days before using. Let the plants be potted firmly. The pots should be clean and thoroughly well drained, covering the crocks with the rough pieces of compost to prevent the fine soil falling amongst the drainage. Just cover the surface roots only. No water will be required for a day or two, then the plants should have a good soaking, and afterwards water must be given with great care. Afternoon syringings overhead with soft water are most beneficial in hot weather. After potting the plants should be placed in an open, sunny situation, but protected from east and south-westerly winds.

POINSETTIAS.

A batch of cuttings may now be put in. Shoots about 3 inches or 4 inches long should be chosen. To prevent bleeding rub the ends well over with fine sand or powdered charcoal. Insert the cuttings singly in small pots, in a mixture of loam and leaf-soil in equal parts, with plenty of silver sand; press the soil round the cuttings firmly, and plunge in a close propagating frame with a good bottom heat, where they will soon root. Do not give much water or they will soon rot in too moist a soil.

PLANTS IN PITS AND FRAMES.

Most of the bedding plants being now out of doors, the vacant pits and frames may be utilised for the cultivation of such plants as Primulas, Cinerarias, Cyclamens, tuberous-rooted Begonias, Balsams, Cockscombs, &c. Let the structures be well washed out, and give a good bottom of sifted coal ashes for the plants to stand on. Let the frames be closed about 3.30 p.m., affording an overhead syringing. On warm nights the lights may be tilted, as these plants delight in an abundance of air at this season.

TROPÆOLUMS.

Winter-flowering varieties, such as Ball of Fire, Clibran's Gem, &c., are most useful plants for training over the roof of a warm greenhouse. They will continue to flower freely throughout the whole winter with very little attention. Cuttings inserted now will make good plants by the autumn.

JOHN FLEMING.

Wecham Park Gardens, Slough.

THE FLOWER GARDEN.

SOWING BIENNIALS.

WHERE the sowing of Wallflowers, Canterbury Bells, Aubrietias, Alyssum, Arabis, and other spring-flowering plants has not yet been done, this work should be hurried on without further delay. Aubrietias and Arabises may now be propagated by dividing up the old plants and putting them in prepared beds well mixed with sand and leaf mould. When there are plenty of old plants to work from, this method of propagating is preferable to seed sowing, as better and stronger plants are produced and ready for putting into their flowering places in the autumn. The value of the Aubrietias, Arabis, and Alyssum has been well exemplified this season, for, notwithstanding the cold backward spring, these plants have flowered well.

SOWING SEED OF HERBACEOUS PLANTS.

Many gardeners prefer the present rather than

earlier in the season for sowing the seed of their perennial herbaceous plants. When these are sown in beds fairly well shaded from the midday sun it is probable that in most places they will produce better plants, by having more attention paid to them than would be the case if they came up at an earlier and busier season. Many of the Alpine Primulas, such as *P. denticulata*, *P. d.* var. *cashmeriana*, and *P. cortusoides*, if now sown in pans and the young seedlings grown on in pots, will make nice plants for putting out in the rock garden next spring.

ROUTINE WORK.

Many plants will require staking. Carnations and even Lilliums—thanks to the invention of the spiral wire supports—can be kept in position without the fact being made painfully patent to every passer-by. So far, however, there seems little chance of the wooden stake or the bamboo cane being superseded by a less obtrusive implement for supporting the stronger-growing plants.

Weeds are now coming into evidence in the footpaths, and in most instances the cheapest and at the same time the best method of getting rid of them is by the use of one of the many well-known weed poisons at present on the market. The introduction of the fluid weed-killer has done away with much of the useless and wasteful kind of labour required in connexion with the garden, and enables the gardener to utilise the labour thus set free for gardening work proper.

H. A. PETTIGREW.

The Gardens, St. Fagan's Castle.

FRUIT GARDEN.

THE FIG.

TREES are late in making their growth this season. Early disbudding is, however, essential, and should be carried out in a way that will allow the growths retained ample space to develop their large leaves without becoming crowded. This is important, otherwise the wood, even of trees against south or west walls, will not perfectly mature, and the natural result will be unfruitfulness, and possibly serious injury from frost during winter. The growths as they lengthen should be secured to the wall, and be stopped if found necessary. The use of ordinary liquid manures is most essential.

MORELLO CHERRIES.

The crops on these trees will be abundant provided they are not unduly thinned during the stoning period, and this not infrequently happens upon light soils from want of water at the roots. Now that the fruit is set the shoots may be safely thinned; at the same time provision must be made for next season's crop by leaving a sufficient supply of the best placed shoots for the purpose, or if the spur system of training is partially or wholly adopted, stop the most suitable growths beyond the third or fourth leaf. Keep a diligent watch for black aphid, and once it is observed either thoroughly syringe the trees with Quassia Extract or submerge the affected shoots in it.

THE LOGAN BERRY.

This is most conveniently grown by securing its growths to a trellis or low wall. It usually pushes an abundance of shoots, and enough of the strongest of these should be selected and trained to or between those that fruit this year, the remainder being pulled out of the soil. Avoid crowding the shoots, as the quality of the fruit is greatly improved by being exposed to the air and sun. The plants delight in plenty of moisture when they are planted upon well-drained soil, and should consequently be copiously watered in dry times, and also supplied with diluted liquid manure when necessary, as well as mulched with short litter.

THE GOOSEBERRY.

Upon light warm soils this plant is especially subject to attacks of red spider, which can be easily known by the colour of the foliage. As a precaution see that the bushes are properly nourished and mulched, but should the pest show itself wash the bushes thoroughly with a garden syringe. If the saw-fly caterpillar, which soon works much mischief, makes an attack upon the foliage, first

spray the bushes with water, and then well dust them with hellebore powder by the help of a flour dredger. Once the bushes are free of their enemy free them also of the powder, which is poisonous. Quicklime may be used in a similar manner, and will cause the caterpillars to fall, when they can be easily destroyed.

STRAWBERRIES.

The cold weather has caused these fruits to be unusually late. In giving stable liquid manure at this time care must be taken not to allow it to come in contact with the fruit. Where very fine fruits are desired for special purposes freely remove the smallest ones, and this is especially advisable in the case of late kinds, such as Loxford Hall and Latest of All, which are only wanted for dessert. Carefully preserve runners for propagation, removing all others.

THOS. COOMBER.

The Hendre Gardens, Monmouth.

IMPRESSIONS OF A CRUISE AMONGST THE WEST INDIAN ISLANDS.

Nor having the pen of a Kingsley, who filled a large volume with an account of his two months visit to two only of the West Indian Islands, and who had to admit in his "At Last" that he was painfully sensible of the poverty of words to describe what he saw, I face the impossible in attempting to mention even the tenth part of the floral and vegetable wonders which we have seen throughout our six weeks cruise, calling at the fourteen most important islands in the too short space of six weeks after our arrival at Barbados.

It is possible that what little I am able to say may be of interest to your readers, and may perhaps induce some with more knowledge to follow our example.

Starting from England under the impression that, although not cultivating stove plants myself, I should know by name and sight nearly all of the flowers we were likely to see, it came as a very humiliating shock to my wife and myself to find how terribly ignorant we were, and in that ignorance we had to remain until our visit to Jamaica (which unfortunately was the last island that we called at), where

through the kindness of Mr. Fawcett, the Director of the Public Gardens, we were able to get answers to the numerous queries we had jotted down.

Up to our arrival at Jamaica we had to be content with admiring the grandeur and magnificence of the tropical growth, or the startling flaming brilliance of the flowering trees, climbers, and shrubs; making very unbotanical notes and descriptions, as we visited island after island, for the native names are hopeless beyond belief, and in the Botanical Gardens, where we expected help and information, there were no labels, not even in the gardens at Trinidad, nor in the so-called Botanical Gardens at Tobago. In passing, I may mention that we read the printed rules which were stuck up at the entrance (always in hope of some information), and Rule 4 alone remains in my memory. "All visitors to the garden must be *completely clothed*," an unkind rule, for it bars most of the inhabitants from visiting their own gardens.

Before going further it may be well to say that it must be understood that everything I may mention, whether fruit or flower, is grown without artificial assistance, such things as glass houses being unknown (except at Hope Gardens, Jamaica, where there are one or two small span houses for some special purposes), the only artificial protection given is in the way of rough, tall, Bamboo frames, where shade is required for Ferns; these frames are densely covered with Clerodendron, Bougainvillea, Bignonia, or some other showy creeper. It will also save confusion if I group the whole fourteen islands in one, thus avoiding repeating the names, unless for any special reason it seems well to do so. For instance, one certainly ought to say that it was on approaching the lovely and fertile island of Grenada that we first saw the Bois immortel (*Erythrina umbrosa*) in bloom, a never-to-be-forgotten sight, as can be well understood when it is realised that I am speaking of flowers seen from the ship when we were certainly several miles from the shore. Imagine trees that give such masses of scarlet flowers that even the man that only comes out to say he has been,

and who does not seem to have a soul beyond deck quoits and inane chatter, asks "What makes all that lot of red in the woods on those hills?" To add to the charm of the Bois immortel, a closer acquaintance showed that the individual flowers were in themselves lovely, so that the fiery effect was not obtained, as many thought, by highly coloured foliage. Later on when approaching Port of Spain, Trinidad (an approach resembling the Kyles of Bute), the effect was even finer, but the actual novelty was gone.

One learns many *little* things on a trip such as this, for instance, not 5 per cent. of the passengers knew that Mace was not contained in the fruit of the Nutmeg inside the pulp, but outside and around the nut itself, and they were surprised when a fruit was cut open for inspection. Happening myself to know this I was much amused to hear a young American lady say, "Papa what is it that grows outside the Nutmeg? I can't remember," to which he replied, "I guess it's the grater."

A Nutmeg tree in fruit is quite a pretty sight, and would have been worth photographing, but the light was always wrong, so that I never got the chance. The trees are male and female, and when I read in one of the many books on the West Indies that growers could never tell what their plantations of seedlings would turn out until the plants were seven years old, I not altogether unnaturally said that they would hardly be so unwise as to plant seedlings, but would put in female cuttings or at least grafted plants. Here again I was only showing that ignorance, the frequent exposure of which is now sending me home a certainly humbler and I hope slightly wiser man, for when at last we got to Jamaica I found from Mr. Fawcett amidst a mass of information on other subjects, that the Nutmeg cannot be grown from cuttings, and that only quite lately has it been discovered that the way to get grafted plants was by "grafting by approach." For this purpose small Bamboo platforms are erected around good bearing varieties, and on these are placed seedlings in their Bamboo pots (the only pots used anywhere in the islands), and the attachment is made in the usual way. Even now success is not invariable, and it is no wonder that the rough and ready planter gave up trying a hundred years ago. There now seems to be a chance of the supply exceeding the demand, but if the price is maintained I cannot imagine a more satisfactory crop for a lazy man, for he has nothing to do but to wait for his crop to drop and rot, when the Mace and Nutmeg are ready to be picked up and sent home. With the sugar crop it is very different; here the poor planter has no chance; it is only the man of capital, who can put up the most modern machinery, and grow 15,000 to 20,000 acres of sugar, who can now make sugar pay. At one old estate worked on ancient lines in Antigua we were shown many hundred of bags of sugar which at present prices actually meant a loss. The owner was really (although he did not seem to know it) holding sugar for a rise; in fact, just speculating in it, as one might do in the City without the trouble of growing it. When one remembers that cane sugar can now be bought for, say, £6 per ton, whereas formerly the price was £100 per ton, one cannot be surprised at the poverty which prevails throughout all the islands. Poverty in the West Indies does not mean misery by any means, for the coloured population has all its wants, and during the past six weeks we have not seen a hungry child or an unhappy looking face. Nature had been too generous altogether, with the result that no one could starve even if he did not do a



THE BEAUTIFUL LILY OF THE VALLEY GROUP FROM MR. ICETON AT THE TEMPLE SHOW.

stroke of work, while one cannot be altogether surprised that the people should become lazy beyond belief when they can obtain what we would consider luxuries with a minimum daily effort.

A. KINGSMILL.

(To be continued.)

RECENT PLANT PORTRAITS.

THE June number of the *Botanical Magazine* contains portraits of:

Aloe pendens, a native of Arabia. This is a fine Aloe, with long spikes of light red flowers. The portrait is drawn from specimens sent from Sir Thomas Hanbury's garden at La Mortola, near Mentone.

Euryops socotranus, a native of the island of Socotra. This is a rather ornamental yellow flowered composite sent from the Royal Botanic Garden, Edinburgh, by Professor J. B. Balfour, F.R.S., who discovered it on Mount Haghier in Socotra.

Eranthemum atropurpureum, a native of the Solomon Islands. This is a very handsome but, unfortunately, shy blooming stove plant, with spikes of pure white flowers with a rosy eye and handsome deep purple foliage.

Echinocactus microsperrmus, a native of Argentina. This is a beautiful Cactus, with medium-sized pale yellow flowers, veined outside with red.

Plectranthus succatus, a native of Natal. This is a very beautiful and desirable species, being much the largest flowered member of its family. It somewhat resembles a *Salvia*, with flowers of a delicate shade of lavender tipped with violet. Sent from the University Botanic Gardens, Cambridge.

W. E. GUMBLETON.

EDITOR'S TABLE.

CYTISUS PRÆCOX.

Mr. Field sends us from the interesting Ashwell-thorpe Hall Gardens a bunch of this beautiful Broom, which is one of the most precious things for massing on the lawn. Mr. Field writes: "It is very fine this season." Our correspondent also sends many other interesting flowers, and some superb blooms of the old *Narcissus poeticus*.

VIBURNUM Plicatum.

Mr. B. E. C. Chambers, Grayswood Hill, Haslemere, in sending flowering shoots of this beautiful shrub, says: "In your issue of April 19 mention is made of *Viburnum plicatum*, and it is there said that 'the single or typical *V. plicatum* is not in cultivation here.' I have the pleasure of enclosing two sprays of it now in full beauty here, and as I had the plant from Yokohama I think it must be the true species. The flower clusters have not so far attained the dimensions named by your correspondent, but may in time do so. The shrub is certainly a very fine one, and flowers most profusely every year."

[The wild plant from which *Viburnum plicatum* originated is *V. tomentosum* of Thunberg, and this has been in cultivation a good many years. Beyond this there is no such thing as a wild *V. plicatum*. The shrub generally grown as *V. plicatum* is the type. It is merely *Viburnum tomentosum* with all the flowers sterile, not merely the marginal flowers, as in our correspondent's specimen. Briefly, it bears the same relation to *V. tomentosum* as the Snowball Tree does to *Viburnum Opulus*. The specimens sent from Grayswood Hill were the finest we have seen in this country.]

FLOWERS FROM SOUTH DEVON.

Mr. S. W. Fitzherbert writes from Kingswear: "I am sending you flowers of *Calceolaria violacea*, *Ourisia coccinea*, and *Veronica hulkeana*. The last-mentioned I am sorry to say is past its best. All are growing and flowering in the open. The *Ourisia* spike is a good one; it was 15 inches high and has fourteen flowers and buds. *Calceolaria violacea* and *Veronica hulkeana* received no pro-



MESSRS. PAUL AND SON'S ROSES AT THE TEMPLE SHOW.

tection through the winter, though the past one has been the most trying I ever remember in the south-west."

[A very beautiful gathering, the *Ourisia* of intense colouring, and the *Calceolaria* charming in all ways. Both this and the *Veronica* should appeal to all who care for flowers of soft and unusual shades.]

PRIMULA JAPONICA.

I am sending you a few trusses of bloom of this most beautiful and telling plant. For the benefit of the readers of your valuable paper I give a few details of the cultivation that this plant thrives under. In the garden here there are two very fine beds well established, and at present a beautiful bit of colour; the beds are under the shade of trees, a spring runs out just above, and the soil is always, winter and summer, in a damp condition, water frequently running over the beds. The condition of the plants, growth, and flower show how well they thrive in such a situation; in fact, once so established *Primula japonica* seems well able to take care of itself.—MARION G. MACARA, *St. James's Gardens, West Malvern*.

[A superb boxful of flowers of the finest varieties we have seen of the Japanese Primrose; the spikes were tall and strong, and crowned with flowers of intense colouring, deep crimson in the centre, passing to a lighter shade. A group must, as our correspondent says, "present a beautiful bit of colour."]

PRIMULA JAPONICA.

Mr. Samuel Taylor sends from Birkdault, Haverthwaite, flowers of this handsome *Primula*. The stems are unusually tall and strong, and slightly fasciated, with large heads of flowers of crimson colouring. *P. japonica* is a priceless treasure in the garden during the early summer, and a scattered succession of flower is maintained for many weeks. The flowers vary greatly in colour, some quite white, with a crimson, pink, or orange eye; others pink, rose, crimson, and so forth; but the deep crimson self is as effective as any.

PRIMULA FARINOSA AND SCILLA VERNA.

Mr. Taylor also sends flowers of the pretty Bird's-eye Primrose, a British species unusually rich in colour, and *Scilla verna*. In reference to this

pretty *Scilla* our correspondent says: "Although in 'Alpine Flowers' it is mentioned that it is certainly not worthy of cultivation, except in botanical collections, it is very pretty in my rock garden this year in one or two good patches."

[A most interesting and welcome contribution to our table is this trio of hardy flowers.]

VIBURNUM TOMENTOSUM MARIÆSI.

Messrs. J. Veitch and Sons, King's Road, Chelsea, S.W., send a shrub we should like to know more about; it is one of the most beautiful flowering shrubs we have seen. A branch was sent smothered with flowers, which lined one side and made a perfect wreath, with the roughish leaves as a groundwork. The outer flowers are large and the central ones small, but it is this feature that gives the shrub so much charm. Those in search of a graceful and distinct-flowering shrub should make a note of this.

OBITUARY.

MR. WILLIAM BULL.

WE regret to announce the death, on June 1, in his seventy-fifth year, of Mr. William Bull, the famous nurseryman of King's Road, Chelsea, who, a generation or so ago, occupied a more prominent position in the horticultural world than he has done of late. This was particularly the case when the numerous stove foliage plants were in the height of their popularity, as he was the means of introducing and distributing many of the most popular, while in the eighties his annual exhibition of Orchids was for a time one of the sights of the fashionable London season. Mr. Bull was for many years a member of the floral committee of the Royal Horticultural Society, and was one of the jurors (of which, alas! but few now remain) of the great International Horticultural Exhibition, held at Kensington in 1866, while in addition he was a member of numerous learned societies. Though ailing for some time he retained his keenness and application to business to the last, being present on the first day of the Temple show, but was taken ill on Thursday, and died as above stated. His death will cause a vacancy among the Victoria Medalists of Honour, of which he was one of the original members. The list of plants that

he has been the means of introducing and distributing is a long and varied one, and of them all perhaps *Primula japonica* in its day attracted as much attention as any.

We take the following notes from *The Metropolitan Review* of March, 1901 :—

"Mr. William Bull is the descendant of an old and honourable Hampshire family. Born in the ancient city of Winchester, he had the misfortune to lose his father at a tender age, and was consequently nurtured and educated under the care of his grandfather, a gentleman of independent means, who resided at Shirley, near Southampton. When barely over fourteen years old, the natural bent of his genius for floriculture led to his leaving school in order to be apprenticed to a nurseryman in his native town, and there, during three years of well-directed energy, he made such marked progress that it was found advisable for him to migrate to 'fresh fields and pastures new.' He joined the staff of the then well-known establishment of Messrs. E. G. Henderson and Son, of St. John's Wood, London. Here he devoted himself with characteristic zeal to the study of systematic botany and practical horticulture, and had so thoroughly mastered the business details of the industry that, before attaining to the age of twenty years, he was fairly launched as a traveller to represent the house of Henderson.

"The confidence reposed in the youthful traveller was not misplaced, for he soon gained marked success. By the time he had reached the maturer age of six-and-twenty years he was invited to join the staff of the leading firm of Messrs. William Rollisson and Sons of Tooting. For this house he travelled throughout the length and breadth of the United Kingdom, and extended his journeys into almost every country of consequence on the European continent, thereby gaining the vast experience and professional *prestige* that were destined to bear such bountiful harvests in years to come.

"Mr. William Bull's aspirations naturally led him after some six years of faithful service to seek a partnership in the house whose fortunes he had so materially advanced; but, being unable to arrange matters satisfactorily, he decided to open operations on his own account. In January, 1861, he acquired the property, now his freehold, in the King's Road, Chelsea, S.W., and from that time onwards there was no looking backward. His business literally progressed by 'leaps and bounds,' and stands to-day in an enviable position—quite unique amongst the foremost horticultural establishments of the Empire.

"Mr. William Bull may be said to have initiated a new era in the history of British horticultural enterprise; for he commenced the hazardous work of a pioneer, by boldly founding an establishment for the introduction of new and rare plants. That was the keynote of the remarkable series of successes which he afterwards achieved, and which were the practical outcome of his travelling experience, when he was repeatedly asked for 'something new, something rare.' As a first step in this direction, he not only placed himself in communication with correspondents in every quarter of the globe, but had his own collectors, among the most famous of whom may be mentioned Dr. Berthold Seemann, Roeyl, Knodler, Bruckmuller, Balderamma, Shuttleworth, Carder, Freeman, and many others, whose brilliant efforts were instrumental in placing at his disposal immense consignments of plants, many not only new to science, but of high economic worth.

"In closing this tribute of respect for the life-long and valuable services of an eminent horticulturist it may be recorded that Mr. William Bull has deservedly won the lasting esteem of his competers as well as of most of the learned societies both at home and abroad. He was one of the favoured few selected to receive the Victoria Medal of Honour . . . is a Fellow of the Linnean Society, the Royal Geographical Society, the Zoological Society, the Royal Horticultural Society, and the Royal Botanical Society; a member of the Society of Arts and of the Anthropological Institute. Mr. William Bull

is also a member of the Société Royale d'Agriculture et de Botanique de Gand, the Société Nationale d'Horticulture de France, and of the Horticultural Societies of Berlin and St. Petersburg."

CHARLES J. GRAHAME.

AFTER many months of great suffering this well-known rosarian died on the 24th ult. at his residence, Hazleleigh, Surbiton, in his sixty-second year. We enjoyed the friendship of Mr. Grahame for many years. His kindly heart, energy, and intense interest in the National Rose Society will long be remembered, and we tender our deep sympathy to his family in their sad bereavement. Mr. Grahame was a member of the Stock Exchange, but he will be more remembered by gardeners (we use the word in its broadest sense) as at one time assistant-secretary of the Royal Horticultural Society and a member of the committee of the National Rose Society. Our late friend cultivated Roses with great ardour, and, especially in his garden at Croydon, grew flowers which won many prizes at the leading exhibitions. When he removed to Leatherhead, with its greater possibilities as regards Rose culture, he again secured many triumphs. Mr. Grahame not only grew Roses but was deeply interested in the National Rose Society, and tried in every possible way to encourage amateurs to win prizes. A few years ago Mr. Grahame considered that the Amateurs' Challenge Trophy was not worthy of its object. He forthwith determined to increase its value, and, associated with twenty keen rosarian friends, increased its value to fifty guineas, making it a prize worth winning. In various other ways, too, he helped the society, especially in rearranging the schedule, and his views were expressed in many forcible letters to THE GARDEN at that time, but after stern battles with those opposed to him he won, and the result is a schedule that embraces practically all classes of growers. The wisdom of the alterations has long since been recognised.

HORACE RADCLYFFE
DUGMORE.

WE are deeply grieved that one of those good amateurs — alas! too few — like the Rev. Henry Ewbank, Canon Swayne, Mr. G. F. Wilson, and many others who have passed away to our great sorrow during the past year or two, died through the result of an accident last week at the Military Tournament. Mr. Dugmore, of The Mount, Parkstone, Dorset, was one of our constant contributors. His notes were always helpful, and in him the amateur gardener, earnest in his desire to know thoroughly the wants of the flowers he has about him, has lost a true friend. His death is sad to contemplate. A man in robust health, he came to London, we believe, partly to see the flower show in the Temple Gardens. He visited the Tournament on the Wednesday afternoon, and, as recorded in the daily papers, through an accident lost his life. Canon Dugmore, the popular vicar of Parkstone, Dorset, hurried to the death-bed of his brother, but the end came before his arrival.

We need only refer to the practical and helpful notes from Mr. Dugmore in THE GARDEN of last week to realise how great is our loss. The funeral took place on Saturday last at Parkstone. Mr. Dugmore was the youngest son of the late Mr. William Dugmore, Q.C., of Swaffham, Norfolk, a Bencher of Lincoln's Inn, and brother of Lieut.-Colonel Frederick William John Dugmore, late of the Scots Guards, of Hamble Manor House, Southampton, and of the Rev. Canon Ernest E. Dugmore, canon of Salisbury and vicar of Park-

stone, Dorset. Mr. Dugmore was born in 1845, and was educated at Christ Church, Oxford, graduating in 1869.

SOCIETIES.

FESTIVAL OF THE GARDENERS' ROYAL
BENEVOLENT INSTITUTION.
A SUCCESSFUL EVENING.

A RECORD attendance and a record subscription list was the pronouncement made from the chair at the anniversary festival of the Gardeners' Royal Benevolent Institution at the Hotel Metropole on May 28, whereat a vigorous cheer was given by those assembled under the presidency of His Grace the Duke of Marlborough, K.G. Any question of the fitness of the action of the executive in selecting the first day of the Temple show for this interesting function was fully justified by the large number present. Some of us were heartily tired by the labours consequent upon the show in the Temple Gardens; but the noble room, the flood of light which pervaded it, the exquisite tints of the floral decorations, mainly composed of Tulips, which



THE LATE MR. W. BULL, V.M.H.

harmonised so completely with the crimson and gold on the ceiling and walls, floral decorations which reflected high credit upon the ladies of the establishment, the pleasant interchanges of fellowship, the good cheer, and the sparkle of real enjoyment, all operated to bring about a jovial gathering. Some of us wished that the speeches had been less lengthy and more lively, that there had been more of the delightful music, the programme of which had to be so mercilessly cut down. There was yet the true flow of soul, and Mr. Harry Veitch keenly touched the sympathies of many present by his fervid appeal for increased support to the institution.

The dinner through and the old grace exquisitely sung, the chairman rose to propose the toast of "The King," and was received with a rattling cheer. His Majesty amid his many duties devoted much of his time to charitable institutions. He gave his patronage to philanthropic institutions; he interested himself in horticulture and the gardening industry; he had shown that by his attending that morning the Temple show accompanied by his Royal Consort, and they all fervently hoped there would be a declaration of peace before the Coronation. Assured that all present heartily wished long life and happiness to the King, he gave the toast of "The Health of His Majesty." The National Anthem followed, sung with great heartiness.

In proposing the toast of "The Queen, Prince and Princess of Wales, and the Rest of the Royal Family," the noble chairman said it was a toast hardly less important than

that of the King. Queen Alexandra was idolised by them. Every day since she first came to this country she had more and more endeared herself to them all as the years passed by. The Prince of Wales was the president of the institution, and, with the Princess, was active in taking part in many functions and assisting in every possible way movements having for their object the welfare of the nation. The fact that the Prince was then president would make those who were engaged in gardening pursuits all the more willing to drink to the toast, which was duly honoured.

Then followed what the chairman described as the toast of the evening, "Success to the Gardeners' Royal Benevolent Institution." They were met for the furtherance of the interests of the institution, and, speaking as their chairman, he wished to express the great pleasure it gave him to preside at the annual dinner; like themselves, he was a lover of flowers. After warm praise of the elegance of the floral decorations, the chairman went on to say that the main purpose served by the institution was that of providing pensions for those engaged in gardening, who for various reasons found themselves in an unfortunate position. He thought the toast was that of flowers. Many had no garden to enjoy, but in our parks and open spaces much that was beautiful in the way of gardening was provided for their enjoyment. It may be said of the gardener that he gave a place in his garden to every plant in the world worthy of cultivation. Some gave the preference to Orchids; some to Roses. They had catholic tastes as lovers of flowers, and grew all types and varieties. We build expensive glass houses in which to cultivate valuable plants from foreign climes. For his part he thought great interest attached to the old-fashioned herbaceous border. We must neither forget nor neglect our old-fashioned English flowers, which were the pride of our fathers. The society in whose interests they were met that night had existed for sixty years. In no other country did such an institution exist, not even in France or Germany, where horticulture was much followed. During the existence of the institution a sum of over £100,000 had been expended among the needy in the ranks of the gardening profession. One excellent feature was that a pensioner dying and leaving a widow had his last moments cheered by the knowledge that she would succeed to a pension of £16 per annum. That was a point which should commend the institution to the support of gardeners. References were made to the Victorian Era Fund, founded in commemoration of the Jubilee of her late Majesty, and the Good Samaritan Fund established a little later. The committee were spending something like £4,000 a year on behalf of their broken-down brethren. The income from subscriptions being only £900 a year, it was at once evident how much depended on the generosity of the gardening community, and so liberally had this been rendered that the committee were always able to meet their expenditure. After a reference to the influence flowers can exert upon the dreary life of the masses of the people, the chairman said he was proud to associate himself with such an institution, and wished it every success. There was no institution of greater value connected with horticulture, and he desired it should be liberally supported by all who took an interest in gardening. The toast was associated with the name of the treasurer, Mr. Harry J. Veitch.

In rising to speak to the toast Mr. Veitch received a very hearty reception. On behalf of the executive he tendered his heartiest thanks to the noble chairman for presiding on that occasion, and he hoped the warm appeal made from the chair on behalf of the institution would have the effect of loosening their purse strings. After a touching reference to the presence of Mr. George Monro in improved health and to the absence of Mr. N. Sherwood, who he was happy to state was in improved health, and from whom Mr. Veitch read a letter, and who sent a subscription of twenty-five guineas, Mr. Veitch said it was quite true the institution had been established sixty years; that at the present time there were 190 pensioners on the fund, of which number eighty-seven were widows, all of whom were receiving permanent help, and it would give great pleasure to the committee to add to this number had they the means to do so. The two oldest pensioners were over ninety years of age, and both had been on the fund for nineteen years. The youngest pensioner was fifty years of age, but that was a special case, the individual being totally incapacitated. The Victorian Era Fund was established by permission of Her Majesty the Queen to assist candidates who had been subscribers to the fund but had failed to secure election, but recipients from this fund must have been subscribers to the institution. The Good Samaritan Fund was established to render temporary assistance in special cases; in this case it was not necessary to have been a subscriber. Mr. Veitch narrated several distressing cases of applicants who had received assistance. No questions were asked as to creed or nationality. All that was required was good character, long service, and urgent necessity. At the present time there were twenty-four applicants awaiting election, and there would probably be a list of from fifty to sixty before the next election comes round, and yet they would next year be able to add only fifteen to the present list. Letters were read by Mr. Veitch showing how urgently assistance was needed by several of the applicants, and he feelingly asked what could they do without such aid as the institution was able to afford them? Having pointed out that of the thirty-six persons forming the committee one-third were practical gardeners, Mr. Veitch concluded by making a very earnest appeal for increased support, as the amount of relief they could afford rested entirely upon those who were supporters of the fund.

Colonel R. Pilkington, M.P., proposed the toast of "Horticulture," an occupation which he declared to be the most beneficial and healthy in the world. The only other occupation he thought could compare with a gardener was that of a clergyman. Gardening was a favourite and health-giving recreation with many. One feature of the present day upon which they might congratulate themselves was the adornment of their dwellings with flowers. He thought the gardens at Kew and Hampton Court great sources of delight to thousands. He was a great admirer of the English

lawn; there was nothing like it in foreign countries. He was a great advocate of public gardens to which the people had access, because if deprived of gardens in their homes they could see and enjoy flowers in such places. In giving the toast he wished every success to horticulture. Mr. W. J. Jefferies responded in the unavoidable absence of Mr. Arthur W. Sutton.

Mr. George Monro proposed the health of "The Chairman," eulogising his generous patronage of horticulture and his public services.

The Chairman made a brief response, congratulating the supporters of the institution on the fact of a record attendance, and that the subscription list announced by the secretary was in excess of any previous year. It had been to him a source of great pleasure to preside on that occasion, and he heartily wished prosperity to the institution. The proceedings closed with the singing of the National Anthem.

The number present was 165, including the secretary, and amongst the subscriptions announced were the following:—The Duke of Marlborough, £25; Messrs. Rothschild and Sons, £105; the Duke of Bedford, £50; the Baron Schröder, £50; Martin John Sutton, £50; Arthur J. Sutton, £50; Lieut.-Colonel R. Pilkington, M.P., £25; Harry J. Veitch, £26 5s.; N. Sherwood, £26 5s.; C. A. Smith-Rylands, £25; Sir Charles Dyke Acland, £20; William Robinson, £20; R. Milligan Hogg, £20; W. Mackay, £21; James Veitch and Son, Limited, £21; Thames Bank Iron Company, £15 15s.; F. Rudolph Barr, £15 15s.; Charles E. Keyser, £10 10s.; F. Lloyd, £10 10s.; John A. Laing, £10 10s.; Henry Jones, £10 10s.; Fisher, Son, and Sibray, Limited, £10 10s.; R. Sydenham, £10 10s.; W. H. Massie, £10 10s.; Proprietors of THE GARDEN, £5 5s.; Proprietors of *Country Life*, £5 5s.; J. T. Anderson and Sons, Limited, £5 5s.; James Douglas, £5 5s.; William Sherwood, £5 5s.; Edward Sherwood, £5 5s.; R. McVitie, £5; George Bunyard, £5 5s.; N. L. Cohen, £5 5s.; J. McIndoe, £5; E. T. Cook, £5 5s.; James Sweet, £5 5s.; Richard Dean, £5 5s.; W. J. Nutting, £5 5s.; R. and J. Cuthbert, £5 5s.; Anthony Waterer, £5 5s.; Lady Durning Lawrence, £5; ditto, annual subscription, £2 2s.; W. J. Jefferies, £5; Geo. Monro and friends at Covent Garden and elsewhere (including Geo. Monro, £10 10s.; Joseph Rochford, £10 10s.; Geo. Monro, jun., £5 5s.; E. G. Monro, £5 5s.; W. Poupart, £5 5s.), £13 1s.; A. Watkins, £33 15s.; ditto, annual subscription, £7 7s.; James O'Brien (including Hon. W. Rothschild, £10 10s.; Captain Holford, £10 10s.; Jeremiah Colman, £10 10s.; Norman C. Cookson, £5; and George C. Raphael, £5), £58 4s.; Alex. Mackellar, £32; Geo. Norman, £20; James Hudson, £17 17s.; Baily Wadda, £15 15s.; W. Thompson, £12 2s.; H. G. Cove, £10 10s.; Alderman R. Piper, £8 8s.; Geo. Woodgate, £7 7s.; W. Eyfe, £6 17s.; N. F. Barnes, £6 6s.; David W. Thomson, £8 2s.; R. Jones, £14 15s.; A. Porteous, £13 9s.; Charles Stocking, £11 11s.; P. O. Knowles, £11 8s.; J. Simmons, £12; H. Parr, £10 10s.; E. F. Hazelton, £5 10s.; Herbert Dowling, £5 2s.; A. Bishop, £12 5s.; and A. B. Wadda, £10 1s.

ROYAL HORTICULTURAL SOCIETY.

TEMPLE SHOW AWARDS.—FLORAL COMMITTEE.

The following received a first-class certificate:—

Nymphaea stellata W. Stone.—A very finely coloured form and a good addition to the stellata section of aquatics. The predominant colour is violet-blue shaded with purple, the flower being thrown into bold relief by the golden centre. In point of size the new comer is quite equal to any that have preceded it. Exhibited by Leopold de Rothschild, Esq., Gunnersbury House, Acton (gardener, Mr. James Hudson).

Darlingtonia californica rubra.—The upper part of the pouch of this *Darlingtonia* is mottled red; it is altogether a distinct plant. Exhibited by Mr. A. J. Bruce, Chorltoncum-Hardy.

The following received the award of merit:—

Phyllocactus Emila.—A large and well formed variety of these showy plants. The colour is deep rose shading to rose-scarlet in the outer portion, while the inner part of the flower is a rich salmon pink shade. It is one of the best formed varieties of this section we have yet seen. From Messrs. James Veitch and Sons, Limited, Chelsea.

Iris sofarano magnifica.—As may be inferred by its varietal name, this is a handsome kind, one of the many fine things in the cushion Irises. In size it bears comparison with *I. susiana*, and in other respects may be said to partake of characters intermediate between this and *I. atrofusca*. Shown by Messrs. Wallace, Colchester, and Messrs. Barr and Sons, Covent Garden.

Freesia aurea.—A rich golden-yellow self-coloured *Freesia* that attracted much attention. It is the equal of any kind we know in freedom of flowering and robustness. A native of South Africa. Shown by Messrs. Wallace and Co., Colchester.

Thalictrum orientale.—This is a neat and elegant plant, in which the foliage is less dense than in any of the *Aquilegium* group, a feature that enhances its value. It is less than 2 feet high, very free, and the flowers pure white. Shown by Mr. Amos Perry, Winchmore Hill.

Papaver A. F. Chillery.—A very large and showy oriental Poppy. The colour is of a pink or salmon-red hue, not of the bright shades of these, but of a peculiar combination not easy to describe. A large black spot is seen at the base of the petals. From Mr. W. Godfrey, Exmouth, Devon.

Tulip Pride of Haarlem.—A late, May-flowering or Darwin Tulip, bearing a flower of large size and scarlet-cerise colour. It is very showy. From Messrs. Barr and Sons, Covent Garden.

Draena indica King Edward VII.—A variety having the leaves margined with silvery white, thus forming a distinct member of this group. Exhibited by M. Emile Coppiters, Mont St. Amand, Gand, Belgique.

Paeonia Queen Alexandra.—A tree Paeony of great size and exceptional purity. The perfectly handsome flowers were saucer-shaped, and the broadly obovate petals in their

glistening purity commanded attention immediately. This handsome kind was remarked by Her Majesty the Queen when inspecting the show on the opening day. Shown by Messrs. Kelway and Son, Langport, Somerset.

Azalea rustica fl.-pl. Ramona.—This is one of the dwarf semi-double varieties that have become plentiful of late. The plant is dwarfer in stature and the flowers smaller than in the *A. mollis* section. The colour is white, with orange base, and the petals sometimes flushed with pink. Shown by Messrs. R. and G. Cuthbert, Southgate.

Primula imperialis.—In colour this is really unique among the species from the higher altitudes. The plant when well grown is almost as vigorous as *P. japonica*, which it resembles in the way the whorls of flowers are produced on the stout stems. Their colour is orange-yellow, almost golden. The leafage more nearly resembles *P. denticulata*; indeed, the margin is distinctly denticulated, though somewhat bolder generally. The plant is a native of the Himalayas and Java, and will probably prove to be not hardy in British gardens. This, indeed, is the experience so far. Shown by Messrs. James Veitch and Sons, Limited, Chelsea.

ORCHID COMMITTEE.

First-class certificates were given to:—

Phalynopsis sanderiana Wigan's var.—This variety is a lovely rose colour, the interior of the lip being white. Exhibited by Sir Frederick Wigan, Bart., Clare Lawn, East Sheen (Orchid grower, Mr. W. H. Young).

Odontoglossum crispum Lady Jane.—A remarkable flower; the sepals are fairly large, white, with a pale pink central band; the petals are short, flat, and marked on the outer half with chocolate red. From J. Wilson Potter, Esq., Park Hill Road, Croydon.

Odontoglossum Pescatorei Charlesworthii.—Undoubtedly the finest *O. Pescatorei* yet exhibited. The flowers are almost as large as a good-sized *crispum*, the pure white sepals and petals being spotted with rich purple. Exhibited by Messrs. Charlesworth and Co., Heaton, Bradford, Yorks.

Oncidium varicosum Charlesworthii.—This variety has a remarkably fine, large, flat lip of a beautiful rich yellow. In the centre of the lip is a mass of pale red spots. Altogether a striking flower. Exhibited by Messrs. Charlesworth and Co., Heaton, Bradford.

Odontoglossum wilckeanum Imperatorum.—The ground colour of the sepals and petals is pale yellow, and these are heavily and regularly marked with rather a dull red. A splendid flower. Exhibited by M. Jules Hye de Crom, Ghent.

Zygopetalum rostratum.—The lip of this striking flower is white, with purple stripes in the centre; the sepals and petals are brownish green. Exhibited by Sir Trevor Lawrence, Bart., Burford, Dorking (Orchid grower, Mr. W. H. White).

Odontoglossum Edward Rex.—A splendid flower, the ground colour lemon, marked with brownish red. The lip is white except for a large brown blotch. Exhibited by Messrs. Sander and Sons, St. Albans.

Levio-Cattleya hycana splendens.—The parents of this hybrid were *Lachia purpurata* and *Cattleya lawrenceana*. It is a beautiful flower, the petals a rich purple, the sepals rather paler in colour; the lip is a deep velvety purple. The colouring of the whole flower is very fine. Exhibited by Messrs. Charlesworth and Co., Heaton, Bradford, Yorks.

Odontoglossum crispum ardentissimum.—A striking flower, the sepals and petals much blotched with claret-red. Exhibited by M. C. Vuylsteke, Ghent.

Awards of merit were given to the following:—

Cypripedium Godefroyi leucociliatum pulchellum.—This is a charming little flower. The dorsal sepal is heavily and beautifully marked with crimson upon a white ground. The petals also are spotted with crimson. From Sir F. Wigan, Bart.

Odontoglossum Dulce.—The somewhat acuminate sepals and petals are blotched in the centre with dull rose upon a white ground. The flowers are borne on a loose raceme. From M. C. Vuylsteke, Ghent.

Odontoglossum nenifolium.—A fairly large and beautiful flower, with regularly placed rose purple blotches on petals and sepals. From M. C. Vuylsteke, Ghent.

Odontoglossum concinnum.—The somewhat round, slightly incurving petals and sepals are plentifully marked with light chocolate. The flower is of medium size. From M. C. Vuylsteke, Ghent.

Cattleya Mossie Aurora.—A lovely flower; the sepals and petals are rose colour, and the lip is of striking beauty; the centre is splashed with purple, and the colour around is a rich yellow. The heavily fringed edge is rosy pink. From Messrs. Stanley, Ashton, and Co., Southgate, N.

Levio-Cattleya Zephyra alba.—The sepals and petals of this flower are pure white, and the throat is lemon-yellow. The edge of the lip is tinged very faintly with purple. From Francis Wellesley, Esq., Westfield, Woking.

Odontoglossum Alexandrie British Queen.—This is a large and beautiful flower, with pure white sepals and petals. The centre of the lip is yellow, and there are red markings near the margin. Exhibited by Messrs. Sander and Sons, St. Albans.

Cattleya Mossie In Memoriam Dr. Snee.—A large flower of great beauty, having rose-coloured sepals and petals and a very large rich purple, beautifully frilled lip. From Messrs. Hugh Low and Co., Bush Hill Park, Enfield.

Cattleya Mendelii wisetensis.—This flower is of splendid form, the sepals and petals are bluish, and the lip is a rich rose-purple, delicately veined. The throat is yellow, veined with reddish purple. From Messrs. Hugh Low and Co., Enfield, N.

Lachia x Helen.—*L. tenebrosa* x *L. digbyana* are the parents of this hybrid. The sepals and petals are apricot-buff, the large frilled lip is rose; and the throat cream colour. A striking flower. From Messrs. Charlesworth and Co., Heaton, Bradford.

Odontoglossum crispum var. Calypso.—A pretty flower. The sepals and petals are regularly and heavily blotched with brick red. From Messrs. Charlesworth and Co.

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[JUNE 14, 1902.]

PRUNING HARDY SHRUBS

WE have been asked by one of the first horticultural amateurs to give some information on the subject of when and how to prune hardy shrubs. The right time to do this is often mistaken, as it depends chiefly on whether the shrub flowers on young shoots of the current year's growth or on the wood ripened the last season. We have, therefore, prepared the following concise instructions.

The art of pruning properly is one that is acquired by considerable practice and observation. The first is necessary that the actual work may be well and cleanly done, and it is only by observing the manner and times of flowering of the different trees and shrubs, which go to constitute a well-kept pleasure ground, that the proper time to prune can be thoroughly understood. The manner of pruning varies considerably, some pinning their faith to a slanting cut towards a bud, some preferring a straight cut, while others again are content with simply slashing off the useless wood in the quickest possible manner. The former is the best method, as it does not present a surface for the lodgment of water, an important point with those shrubs that are of a pithy nature in the centre of the wood, as the presence of water will quickly cause the stems to rot and render the plant unsightly, even if it escapes serious injury. All stems that are an inch or more in diameter should be tarred over to keep out the wet, which either rots them directly or injures them indirectly, by making a moist, congenial home for the various fungoid diseases to which so many of our exotic trees and shrubs are liable.

Many shrubs which have been in one place for some years, and become stunted or poorly flowered, are often given a new lease of life by a hard pruning in the winter, cutting away all the old wood entirely, and shortening the remainder. With a good feeding at the same time, they will throw up strong young shoots full of vigour, which will bear fine and well-coloured flowers. Of course a season of blooming will be lost by doing this; but it will be amply compensated for in after years by a healthy plant, in place of a decrepit and unsightly one. The list appended includes practically every flowering tree and shrub *hardy* in this country, with the proper time of pruning it. Those not specified flower on the old wood.

Abelia.—This genus is barely hardy, and in most localities is usually pruned sufficiently or too much by frost. A moderate thinning of the shoots in spring is sufficient.

Acanthopanax.—There are three species of this genus hardy in this country, and of these *A. ricinifolium* requires no pruning beyond the cutting away of side shoots to a single stem, as

it attains the dimensions of a tree in Japan, its native country. *A. sessiliflorum* and *A. spinosum* are low-growing shrubs, and require an occasional thinning out, which is best done in late summer, to allow the remainder to thoroughly ripen before winter.

Actinidia.—A genus of climbing plants, easily grown in warm, sheltered localities. They require very little pruning; but should be watched in spring when growth has commenced or the twining shoots will get into a tangled and unsightly mass. Any growth not required should be cut away in the winter.

Akebia.—A genus of climbing plants, which should be treated in the same way.

Æsculus (Horse Chestnut).—The common representative of this requires little or no pruning; but the other species are benefited by a thinning out of misplaced and useless branches in late summer to allow light and air to the centre of the tree. This is especially important to all the *Æsculus* in a young state. *Æsculus parviflora* should have a good thinning if the branches or suckers become at all thick, cutting all growths not required clean away from the base.

Amelanchier.—These should be pruned after the flowers are past, the removal of badly placed and weakly shoots being all that is required. If the plants are becoming too large they can be shortened back at the same time.

Amorpha.—If flowers are desired of *A. fruticosa* it should be kept thinned out and not be cut back; but the flowers are not showy, and it is usually kept cut down every winter for the sake of its foliage. *A. canescens* should be cut down each spring to within two or three eyes of the old wood as it flowers best on the young growth.

Andromeda.—The only recognised species of this genus is *A. polifolia*, which requires no pruning.

Aralia.—These should be kept to a single stem until they have attained a height of 6 feet to 8 feet, after which they may be allowed to branch or be still kept to a single stem as may be desired.

Arbutus.—An evergreen genus which requires no pruning.

Aristolochia.—A genus of climbers, which succeed best if the shoots are not allowed to become too thick. The weakest should be cut away in the winter.

Artemisia.—This genus is best known by its common representative, the Southernwood; but this and the other *Artemisias* should be cut down annually in a young state. When older an occasional thinning out of the shoots in winter is sufficient.

Baccharis.—Of this *B. halimifolia* flowers on the young wood, and should be cut back annually, while *B. patagonica* should not be pruned at all.

Berberis.—Properly the *Berberis* requires no pruning; but the stronger-growing species, such as *B. aristata*, *B. Lycium*, *B. virescens*, *B.*

vulgaris, &c., require an occasional thinning to keep them within bounds.

Berchemia.—A genus of climbing plants which require no pruning.

Bruckenthalia.—A dwarf-growing Ericaceous genus, the seed-pods of which should be removed as soon as the flowers are past or the plants will be seriously weakened.

Bryanthus.—This should be treated the same as the last, which it somewhat resembles.

Buddleia.—Of these *B. japonica*, *B. intermedia*, and *B. lindleyana* flower on the young wood, and require cutting back every winter to within two or three eyes of the old wood. *B. globosa* need not be pruned at all, except in a young state, to keep it bushy; and *B. paniculata* only requires thinning out if it becomes too thick, which is not a very common occurrence.

Calluna (the Ling).—This and its numerous varieties should have the old flowers cut off as soon as they are past, and any long or straggling growth cut back at the same time.

Calophaca.—The solitary representative of this genus is rather inclined to become straggly if growing at all freely. When this is the case the plant is benefited by the cutting back of the longer shoots in the winter.

Calycanthus.—These require an occasional thinning of the branches, and any long shoots may be shortened with advantage.

Camellia.—These, which should be grown outdoors much more than they are, should be cut down if they get unhealthy or unshapely, which should be done in April, otherwise no pruning is required.

Caragana.—Cut away all the straggling or misplaced branches.

Carmichaelia.—Requires no pruning.

Cassandra.—See *Calluna*.

Cassinia.—These are grown more for their foliage than for their flowers, and should be cut down in the winter or early spring. This can be done annually or biennially, according to whether the plants are growing strongly or not.

Cassiope.—See *Calluna*.

Catalpa.—This genus contains some of our handsomest flowering trees, all of which require careful pruning after the flowers are past, thinning out the weakly wood and shortening any long branches.

Ceanothus.—Of these *C. americanus*, *C. azureus*, *C. integerrimus*, and the garden hybrids, such as *Gloire de Versailles*, *Marie Simon*, *Ceres*, &c., flower on the young wood, and should be cut back in spring, allowing only sufficient shoots to remain to form a well-balanced plant, and shortening them back to within two or three eyes of the old wood. The remaining species flower on the old wood, and merely require a shortening back of the stronger shoots and a thinning out of the weakly ones after the flowers are past.

Celastrus.—A climbing genus of strong and vigorous habit, with showy fruits. They only require sufficient pruning in winter to keep them within bounds.

J. CLARK.

(To be continued.)

EDITOR'S TABLE.

ARCTOTIS DECURRENTS (JACQUIN).

On page 350 of THE GARDEN is a reference to this rare flower from Mr. Gumbleton. The description given is that the flower "is of a lovely rich orange colour," but we must make a correction. Mr. Gumbleton writes that "*its flowers are a bluish white, with a claret under petal.* I hope I may be able to keep this unique plant, which will not ripen seed in this country. It never affords cuttings, as every shoot is so full of flower buds that they will not strike."

DOUBLE SCARLET ANEMONES.

One of the most beautiful of all the Anemones is the double scarlet variety shown so frequently by Messrs. Gilbert and Son, the Anemone Nurseries, Dyke, Bourne, Lincs. We have received from them a most welcome boxful of flowers. Their colouring is wonderful, an intense crimson, the centre quite double, and with guard florets of the same deep and beautiful shade. Messrs. Gilbert and Son write: "This Anemone has been in bloom since the first week in April, and is now just over; the specimens sent are rather small." Small they may be, but the beautiful colouring is there.

SEEDLING COLUMBINES.

Mr. T. R. Cuckney sends from the Cobham Hall Gardens, Gravesend, a delightful series of *Aquilegiaerulea* seedlings. The flowers are large but dainty, and of many colours—white, rose, purple, pink, and not one harsh or unpleasant tone amongst them. Few flowers at this time are more beautiful than a good strain of *Aquilegias*; they are welcome in the garden and on the table.

NOTES OF THE WEEK.

FORTHCOMING EVENTS.

June 19.—Isle of Wight (Ryde) Rose Show; Jersey Rose Show; Meeting of the Linnean Society.

June 24.—Royal Horticultural Society's Rose conference, Holland House (two days); Lee and District Horticultural Show (two days); Oxford Commemoration Show.

June 28.—Windsor and Eton Rose Show; Maidstone Rose Show.

June 30.—Canterbury Rose Show.

July 1.—Southampton Rose Show (two days); Meeting of the National Amateur Gardeners' Association.

July 2.—National Rose Society's Show in the Temple Gardens; Croydon Rose Show; Hanley Horticultural Fête; Hereford and West of England Rose Show; Newcastle-on-Tyne Summer Show (three days); Richmond Horticultural Show.

July 3.—Colchester, Sidcup, and Norwich Rose Shows.

July 4.—National Rose Society's Southern Exhibition at Exeter.

Coronation Rose Show.—At this show, to be held at Holland House, Kensington, on the 24th and 25th inst., all assistants and attendants at groups shown by trade firms must wear a badge with their firm's name. There can be no exceptions made to this rule. The badge used must be the one approved by the council, and no other. The badge can be obtained from Mr. Pinches, 27, Oxenden Street, London, S.W., price 1s. each.

Oakwood, Wisley.—An opportunity is given for some good flower gardeners to continue the work of the late Mr. G. F. Wilson at Wisley. The experimental garden is for sale. Particulars can be obtained from Mr. H. Wilson, Heatherbank, Weybridge Heath, Surrey. Readers of THE GARDEN must have read about the plants at Oakwood, the Japanese Irises in particular, and further remarks about the place are needless.

National Amateur Gardeners' Association.—Mr. F. Finch, 117, Embleton Road, Lewisham, S.E., writes to remind us that

the annual conversazione will take place at Winchester House on July 1, tickets 1s. 6d. each. Mr. H. Needs, of Woking, offers a trophy to be competed for at the July meeting; its value is three guineas. It is given for twelve bunches of Sweet Peas, distinct, twenty stems in a bunch, to be arranged with Sweet Pea foliage. The trophy must be won twice consecutively or three times in all before it becomes the absolute property of the winner; the second prize is a small silver medal, presented by the association; and the third prize a small bronze medal, presented by the association. This trophy will be competed for on July 1 next.

Mr. E. Kemp Toogood, a member of the firm of Messrs. Toogood and Sons, Southampton, has been elected a Fellow of the Linnean Society.

Rosa rugosa Conrad Meyer.—That hybrid *rugosa* Rose Conrad Meyer is the only Rose that was hardy enough to withstand the spring, and is now flowering in Scarborough, a fine thing, and welcome for its exceptional hardiness.—EDWARD H. WOODALL, Scarborough.

London Dahlia Union.—We are asked to announce that a big Dahlia show will take place at the Royal Aquarium, Westminster, on September 16, 17, and 18. The chairman for the present year is Mr. John Green, of Dereham, and the treasurer, secretary, and superintendent of the exhibition, Mr. R. Dean, Ranelagh Road, Ealing, W. The schedule of prizes is a liberal one.

Veitch memorial medals.—Amateur growers of Roses and gardeners are reminded that in addition to the silver cup offered as a first prize by the Royal Horticultural Society in Class 9 and also in Class 15 of the schedule of prizes to be competed for at the conference on Roses to be held in Holland Park, Kensington, on the 24th inst., the trustees of the Veitch Memorial Fund will award a large silver medal, suitably engraved, to the winner of each of these cups.

Tulip La Merveille.—I was glad to see that "Philomel" included this grand Tulip in the list given on page 377 of your last issue, for it is a variety that deserves a place in every garden, whether large or small. It is a vigorous grower, and with me has flowered remarkably well. The flowers are borne on stout stalks quite 2 feet high, and are most handsome. The perianth segments are long, giving this Tulip in the bud form an elegant appearance, and their colour is a beautiful blending of yellow, buff, and red. The exterior of each segment is heavily suffused and streaked with carmine-red upon a yellow ground, the bases of the interior of the perianth segments are rich yellow, and above, the colour is a richer shade of that on the outside. Add to this wonderful colouring, good size, form, and habit, as well as a delicious Primrose scent, and you have the characteristics of Tulip La Merveille. This scent can be detected when the flower is young.—A. P. H.

Under Gardeners' competition.—With reference to this competition, the judges report on which is given on another page, Mr. P. Murray Thompson (secretary of the Royal Caledonian Horticultural Society) writes us that "when returning the plans I gave each competitor a note of his main faults, and it has been very gratifying to receive replies thanking me for the notes, and saying that the competition had been enjoyed, had done the competitor good, and asking for the sketch plan for the competition next year, which we are at present preparing. The manner in which this year's competition has been taken up is very gratifying, and those whose plans were not commended write that they will have another attempt."

Trollius Fortunei plenus.—This is quite one of the most beautiful of the Globe Flowers that I know. The flowers, which with me have not been very plentifully produced, are of remarkably rich colouring. The spreading outer petals are a glowing orange red, and the long, narrow, erect ones, which form a ring in the centre of the flower, are more richly coloured still. The leaves of this *Trollius* are also handsome, being deeply cut and of a dark green.—A. P. H.

Two good late white Tulips.—I should like to bring to the notice of your readers two particularly useful varieties of late white Tulips, viz., *Didieri alba* and *marbonensis alba*. The last named is even later than *Didieri alba*, and now (June 5) is only just opening. Its flowers are not large but very choice and dainty. They are produced on stiff stems about 20 inches high, and are not more than 1½ inches in depth; however, the flowers, being small, do not droop and fall about as some of the heavier ones do. They remain bright and fresh looking throughout their few weeks of existence. The colour of the perianth segments is creamy white, and the margins of the outer ones are faintly tinged with crimson. At the base of each segment inside is a buff-coloured blotch, thus forming a ring at the base of the flower. Tulip *Didieri alba* is of a looser habit than the one just mentioned, the flower stems are not so stiff and erect, consequently the flowers droop more. They are a purer white than those of *marbonensis alba*, and the perianth segments are longer, in fact the flower is altogether larger and less compact. There are no markings whatever upon the white perianth.—A. P. H.

Messrs. John Waterer's Rhododendron exhibition.—A numerous company assembled in the charming grounds of the Royal Botanic Society, Regent's Park, on Thursday, the 5th inst., on the occasion of the opening of the Rhododendron exhibition that has been an attraction there during the early part of many summers. For some years past Messrs. John Waterer and Sons have made the exhibition with plants from their nurseries at Bagshot, and this season's display eclipses, perhaps, all previous efforts. The Rhododendrons are arranged in beds in a prettily undulating part of the grounds that lends itself admirably to the purpose, and these beds are now delightful masses of handsome flower trusses of varied colouring such as the Rhododendron alone can give. Chief interest is directed towards the central group of plants, where the prominent feature consists of a large clump of that lovely variety called Pink Pearl, whose enormous trusses of pink bells make it very noticeable, even amongst many other charming varieties. Others that we remarked as unusually beautiful were Mrs. Tritton, bright crimson, light centre; Everestianum, rosy lilac, most profuse bloomer; Duchess of Connaught, white, with lemon-coloured markings; Lady Eleanor Cathcart, bright clear rose, with crimson spots; Mrs. Holford, salmon crimson; Gomer Waterer, white, slightly blushed, immense truss, &c. But each bed contains varieties that are worthy of being specially noted were it possible to do so. Throughout the month of June this unique display of Rhododendrons will be well worth a visit, for many of the flowers are but just opening.

Notes from North-Eastern Scotland.—*Saxifraga macnabiana* is a distinct and pretty Rockfoil now in flower in the rock garden, its rosy centred flowers being very attractive. A bright dash of colour is given by *Geum Heldreichii* and the double white *Arabis* is a mass of bloom. What a good thing the latter is. Among shrubs the double *Spiraea prunifolia* is, as usual, full of flower; it is a plant that never fails me, and its foliage is very bright in autumn, beaten, in this respect, only by *Berberis Thunbergii*, which is a most attractive shrub at all seasons. *Rhodotypos kerrioides* is opening its clean white flowers, as are the *Kerrias* and *Daphne Cneorum*, this latter in the rock garden, and very bright it is. *Exochorda grandiflora* I cannot get to flower, and I should be much obliged if any of your readers could help me with this shrub. I have it growing in an open sunny spot; it grows well and is very healthy, the bush being about 6 feet high and more through. I have not touched it with the knife, and it does not appear to require it, as it grows in a nice open way without any crowding of the shoots. The fruit blossom on all sorts of Apples, Pears, and Cherries has been very rich this spring, and if anything like the usual proportion sets it will require thinning very freely. I do not think I have ever seen a finer show of blossom.—N. B.

Rose Conrad T. Meyer.—This Rose, said to have resulted from a cross between *Rosa rugosa* and *Tea Rose Gloire de Dijon*, promises to make a magnificent garden variety. I think *Gloire de Dijon* must have been the seed parent, as the foliage partakes much more largely of the character of this variety than of *R. rugosa*. At Gunnersbury House Mr. James Hudson has large stools of it, which have thrown up very strong stems, and these are fast coming into bloom. The flowers, which are very large and of a clear silvery rose colour, may be described as having the build of *Gloire de Dijon*, modified by the blood of *R. rugosa*, which also asserts itself in the character of the wood. The buds are numerous towards the points of the long shoots; but below them numerous strong shoots are being put forth from the vigorous stems, and these, when the flower-bearing points have yielded their harvest of bloom and are cut away, as Mr. Hudson intends to have done, a succession of bloom is certain. There is no reason, judging from the appearance of the plants, to doubt that it will prove a free and continuous autumn bloomer.—R. DEAN.

Calceolaria amplexicaulis.—In the reaction against the over-use of bedding plants some useful tender plants have been apt to be overlooked. Our gardens are no longer in danger of being sacrificed to bedding and bedding only, but there is no reason why the same tender plants, still commonly called bedding plants, should not be more thoughtfully used. The bright sulphur-yellow *Calceolaria amplexicaulis* is an indispensable plant. There is scarcely anything else that will give that mass of pure pale yellow in late summer and autumn, and though it will not stand out except in our most favoured southern regions, it only needs a cold frame to bring it safely through the winter.

Spiræa Thunbergi.—This shrubby *Spiræa* is doubly worthy of note—first, because it is the earliest of that extensive class to flower; and, secondly, as being one of the parents (*S. multiflora* is the other) of the charming *S. arguta*, which may be truthfully described as the finest of all the early flowering *Spiræas*. *Spiræa Thunbergi*, however, flowers about a fortnight or so before its hybrid, hence a place may in most gardens be well found for both. It forms a dense twiggy bush, 3 feet to 4 feet high, the slender arching shoots freely clothed with small narrow leaves of a brighter green than those of most *Spiræas*. The blossoms, which develop with the earliest leaves, are borne in such profusion that when at their best the entire bush is quite a mass of white. Like many others of its section this can be brought on under glass and used for the greenhouse early in the year.—H. P.

Freesia aurea, a yellow-flowered species, having many of the good attributes of *F. refracta*, should prove a useful and interesting plant to the amateur who has a cool greenhouse. The wiry stems are tall, three-branched, and each branch bears from six to eight rich yellow, orange-shaded flowers an inch long, differing but little from those of *F. refracta*, save in their slightly smaller size, in their colour, and in the absence of the powerful sweet scent which has made *F. refracta* so popular. *F. aurea* is an old plant that has found refuge in one or two amateur collections for some twenty years; but it has been practically unknown until recently, when it was exhibited at the Temple show by Messrs. Wallace and Co., there receiving the Royal Horticultural Society's award of merit. Travellers from South Africa inform me that the plant grows 2½ feet high in its native habitat, and that it flowers so profusely that belts of it much resemble our common wild Broom so rich is the colour. Residents in warm dry countries should particularly note this plant, for it is said to

require no moisture, even in the driest of situations. Lovers of the *Freesia* may be interested to learn that arrangements have been made in South Africa for consignments of both *Freesia aurea* and *F. refracta alba* to arrive in this country in February and March, so that they may be successfully grown in the open under the same treatment as that given to *Ixias*, *Sparaxis*, *Tritonias*, and kindred plants.—G. B. MALLET.

Rhododendron Little Beauty.—This, which is one of Messrs. Veitch's of the Javanese section of *Rhododendrons*, is, apart from its own intrinsic beauty, of particular interest, from the fact that it is, so far as I know, the only hybrid yet put into commerce by this firm in the production of which *R. malayanum* has played a part. *Little Beauty* was obtained by fertilising a flower of the variety *Monarch* with pollen of *R. malayanum*. The seed-bearing parent has quite an interesting history, being the result of intercrossing *R. Princess Alexandra* and *R. Duchess of Edinburgh*. The parents of this last named were *R. Lobbi* and *R. brookeanum*, while in the genealogy of *Princess Alexandra* both *R. jasminiflorum* and *R. javanicum* occur. As a garden plant *Little Beauty*, though less vigorous than many of the other varieties, is very beautiful and extremely free flowering. The flowers, which are borne in compact clusters, are of a carmine-scarlet hue, while the leaves are pointed as in *R. malayanum*.



A GROUP OF CALCEOLARIA AMPLEXICAULIS.

It is strange that the variety *Monarch*, whose blossoms are orange-yellow, should have been so much influenced by the pollen of *R. malayanum* that the progeny in nearly every respect resembles this last-named species. The variety *Little Beauty* was given an award of merit by the Royal Horticultural Society, December 15, 1896, thus proving its value for winter flowering. Like all the rest, however, though flowers are produced at different seasons, the finest display, as a rule, takes place in early spring.—H. P.

Stonecrops as lightning conductors.—The name of this family (*Sedum*) is suggestive, for the plants sit patiently on during the extremes of heat and cold. Bentley enumerates thirteen British species. The most frequent are *S. tectorum* and *S. acre*, possessed of very opposite qualities. The former plant enjoys a curative reputation amongst old wives and herbalists. Since the introduction of slates the sight of a red-tiled cottage covered with this *Sedum* has become rare—at least in the neighbourhood of populous towns. Sixty years since it added very much to the picturesque beauty of many a roof in the Lake District. When pedestrianising in company with a brother pharmacist (since deceased) we admired a fine display on the roof and outbuildings of a farmhouse. The tenant, an aged, but hale and hearty lady of primitive manners, volunteered the information that a building was thereby protected

from thunderstorms, and that "this very house was saved by its intervention. In my grandfather's time the lightning struck the roof and turned the Thunder-flower all to a jelly; but the house was saved, and that's why it is called Thunder-flower." Some twenty years after, when travelling on the continent, this *Sedum* was noticed growing abundantly upon many a housetop in Belgium, where it was known as "Dunderblomen;" at Arras, in France, it was styled "Fleur de Tonnerre." It is remarkable that this humble plant should be thus recognised in places so remote from each other, and it might be of interest to lovers of plant-lore to investigate the subject, and if possible extract the extent and origin of the legend, which may date from remote antiquity.—*Pharmaceutical Journal*. [It is quite likely that a mass of a succulent plant such as a Stonecrop, containing as it does a large proportion of water, may act in the way described, and in very truth by attracting the electric current to itself divert it from the house. Perhaps some scientific reader will kindly give a further opinion.—Ed.]

New Cactus Dahlias.—Of the new *Cactus Dahlias* exhibited last season, one of the most brilliant in colour is *Sailor Prince*, being of a rich claret-crimson hue, while the flowers are of quite the most approved *Cactus* shape. Its quality last season was recognised by the London *Dahlia Union* at the Royal Aquarium and by the Boston *Dahlia Society*. In each case a first-class certificate of merit being awarded to it, while the Royal Horticultural Society recognised it by the award of merit. It is being distributed by the raiser, Mr. John Green (Hobbies and Co.), Norfolk Nurseries, Dereham. Mr. Green has paid particular attention to habit of growth, holding that the *Cactus Dahlia* has other purposes to serve than merely as an exhibition flower. This variety grows to a height of from 4 feet to 4½ feet, and the blooms are produced well above the foliage on strong stiff stems, while it is very free for a *Cactus Dahlia*; it is an excellent garden variety. Miss Grace Cooke is one of those charming rose and white varieties of the type of *Delicata* of which we have too few. It was shown in fine character by Mr. Green at Shrewsbury last August, and obtained a first-class certificate. In height it is about 3½ feet. Not having seen it growing, I am unable to say anything as to its habit of growth, but the raiser states it is very good. *Flamingo*, another of the Dereham seedlings, has, in addition to its intense flame colour, frimbriated petals. I saw this exhibited on two or three occasions, and though it failed to gain an award, it must be remembered that last season was remarkable for the number of very fine new varieties which obtained awards, and some failed which, perhaps, well deserved recognition. But it is certain to make an excellent garden variety, the habit is good, and the blooms freely produced on long stiff foot stalks.—R. DEAN.

IMPRESSIONS OF A CRUISE AMONGST THE WEST INDIAN ISLANDS.

(Continued from page 386.)

COMING home fresh from such scenes it is hard to avoid generalising, and before now your readers must have wondered when they were to get some account of the vegetable life of the islands.

To give some faint idea of the flowers, &c. that one sees during an ordinary drive, I will give a list of the wild plants which we recognised when driving up 3,700 feet from Kingston to Newcastle, a military station on the hills:—

Maurandias in variety; Browallia, Cuphea, Daturas, both white and yellow; Bletia, Passion Flowers of two kinds, several distinct Solanums, Lantana, Hippeastrum equestre, many species of Begonia, "Burning Bush" (Pilea serpyllifolia), Ageratum, Agave, Lyonia (very near Andromeda), Red Salvia, Oxalis, and Rose Apple, the flowers of which are like a large Eucalyptus bloom. Higher up we saw masses of what was obviously Hedychium, the only thing in the list not actually in flower. Besides these there were innumerable plants and trees in bloom which were strange to us, and in many places the roadside was carpeted with Ferns, including occasional patches of Glycine, each patch many acres in extent. It must not be forgotten that the hills also were covered with fine trees of Bread-fruit, Mango, Silk Cotton Trees, giant Palms of many kinds, &c., while, on crossing the divide, the other side of the mountain is freely dotted with Tree Ferns, the elevation being about 4,000 feet.

To attempt to describe the individual flowers is entirely beyond my power, and I will therefore only make a selection of the most showy and striking of the trees, shrubs, &c., which were in bloom during our visit, adding a few of those which, although not in flower, were remarkable for some other reason. First of all, amongst the latter must be placed for beauty of foliage the Bread-fruit, while for size alone I think the Silk Cotton Tree (*Eriodendron anfractuosum*) stands first, a handsome but useless tree, with enormous buttresses of roots; the negroes consider it a sacred tree (or rather the reverse), and believe that the man who cuts one down will die within a year; this superstition may possibly account for the survival of so many grand old specimens, amongst which "Tom Cringle's Cotton Tree" is shown in Jamaica as the largest tree in the island. In form and stature the Cabbage Palm (*Oreodoxa oleracea*) could not be beaten; some specimens are said on good authority to be over 150 feet in height. The Sandbox Tree (*Hura crepitans*) has the quaintest of fruit, used by the negroes for making letter weights for sale to tourists. They take out the centre and fill up the space with lead. We were warned that the fruit when dry would explode unless the inside was first taken out, but we preferred chancing this, with the result that of the two brought away the larger one burst after hanging up in the cabin for a week, scattering itself all over the place, many of the pieces reaching the extreme limit of the cabin. The smaller one has now, after hanging up for just two months, "exploded" and covered the billiard table from end to end. Unfortunately, we were not present on either occasion, but to judge by the effect the force must have been considerable.

Of Crotons, of which there are over a dozen species in Jamaica alone, one cannot speak too highly. Any of our leading nurserymen would be proud to show a stand of Crotons equal to what can be seen in any of the tiny gardens with which the natives invariably, in all the islands, surround their tumble-down little shanties. In such glorious sun these Crotons are grandly coloured, and when one comes across some of the newer forms, as in the beautiful grounds of the Russian Consul at St. Thomas, the effect is very striking; the plants all seem to enjoy perfect health, and, apparently, nearly entire freedom from insect pests. Not only do the coloured people grow Crotons, but almost all have besides other things at least one plant of Hibiscus, and in some cases whole hedges of it, so that one is rarely anywhere where one could not pick a handful of the brilliant scarlet flowers. I am glad to say that I only saw one double

Hibiscus during my visit, for it is not to be compared with the single form, at any rate when growing out of doors.

In a great measure what I have said of Crotons applies to Cannas, for they also grow and bloom in such perfection that, on hearing that only the old or what we would call common varieties were grown, I strongly recommended Mr. Fawcett to get over some of the best of the new kinds, when he would be startled to see the improvement. Surely it would be worth while for some of the leading growers to send out their new seed to be raised under such favourable circumstances. Another striking tree is *Napoleona imperialis*, the curiously-coloured flowers of which cling to the bark, occasionally causing the petals to meet on the opposite side of the smaller boughs in a most quaint manner. A large number of species of Palms have been introduced from time to time, and all do well, adding greatly to the beauty of the more cultivated parts of the islands. So far as one could see there were not many species of Bamboo; in fact, in many of the islands we did not see any, and the most curious was one very strong-growing kind which, when at a height of about 6 feet from the ground, turned inwards at right angles, making the most impenetrable mass conceivable. There was also a kind with solid stems; possibly this was not a Bamboo at all, but it was so named by the foreman of one of the gardens. The Screw Pine (*Pandanus Vandermeeschii*) was most distinct, and of this we managed to bring home a fruit, which looks as if it would last for years without losing its character. The leaves of the Gamboge are large and very handsome, owing to their highly-polished appearance; the fruit is sliced and the gum which runs out is collected. Turmeric, Cinnamon, and Clove are all interesting, the latter especially so, because being in bud we were able to see for ourselves that it was the bud and not the fruit which, when dried, became the Clove of commerce. The one species of *Entada* which we saw is said to bear the largest seed-pod of any tree in the island, and this is saying a good deal, for the many species of *Acacia* are hung with enormous quantities of seed-pods of large size, as is also the "Flamboyant" (I do not know the botanical name), which Mr. Fawcett said was considered the handsomest flowering tree in the West Indies; it, however, does not bloom until the summer. I have just measured the *Entada* seed-pod which we brought home with us and find that it is 26 inches long and 2 inches wide. The *Spathodea* (query sp.) is a highly ornamental tree, both on account of its flowers and foliage; the former are of a bright yellow orange and in shape not unlike a Tulip. The fruit of the Calabash (*Crescentia Cujele*) takes the place of pottery with the natives. We gathered a couple to bring home, and when scooped out and thoroughly dried they look as if they would last for ever. The leaves of the tree are small and of a bright green, and the branches numerous but long and slender. As the large fruit comes at the tips of these branches the weight bends them almost straight down, making the tree unmistakably recognisable after having been once identified. The fruit of the Cannon Ball Tree (*Couroupita guianensis*) is used in a similar manner, but the tree growing to a large size it is almost alarming to think what would happen if one of the very formidable "Cannon Balls" should fall on the head of any passer-by! The Star Apple (*Chrysophyllum Cainito*) is remarkable both for the golden colour (as the botanical name implies) of the underside of the leaves, which alone make it a distinct feature in the

landscape, and for its fruit, which is about the size of an ordinary Apple, and is pleasant to the taste.

A. KINGSMILL.

(To be continued.)

THE UNHEATED GREENHOUSE.

(Continued from page 381.)

ANOTHER very charming hardy perennial is the white form of the Peach-leaved Bell-flower (*Campanula persicifolia*). To get it to flower in early spring requires considerable forethought, as the foundation for the next season must be laid in the previous April, but the way to manage it is as follows: Good side pieces must be chosen which show no sign of sending up flowering stems or the plant will be in bloom before it is wanted. These should be potted firmly in good loam, in 7-inch pots, and plunged at once in an outside border. In the autumn the pots must be transferred to a cold frame like most other plants which are being brought on gently for early flowering, and later be removed to the greenhouse, where the spikes of pure white flowers will be very acceptable. There are many garden forms, single and double, of this Bell-flower, of which the type is blue, but a very good one for the purpose in view is that known as the large white Cambridge variety. The preparatory process thus sketched will be found useful for other herbaceous plants, and may be tried with modifications for any perennial which seems in the grower's fancy to be suitable and desirable. *Heuchera sanguinea* with its spikes of carmine-red, *Tiarella cordifolia*, the feathery white plumes of which are never out of place, though never so lovely as in their native woods, the long spurred Rocky Mountain Columbine (*Aquilegia corulea* and *A. chrysantha*) are all well flowers of the New World, well known now in our best gardens, but they may be pressed into the service of the cold greenhouse should circumstances suggest their use. It is a well known fact that plants can be educated, so to speak, to change their time of flowering. A species for example which flowers naturally in June, by an alteration of treatment and temperature may be induced to bloom in April. The following season in all probability, with the same treatment, the flowers will appear a month earlier, until, instead of midsummer, that particular specimen gradually becomes accustomed to open its flowers in spring. This tendency to change the habit is a very useful one, and should be turned to the best advantage by the cold house gardener.

Primroses of several different types are valuable in the earlier months of the year and follow each other in obliging succession. Dean's hybrid forms of the common Primrose (*P. acaulis*) make pretty groups of many shades—pure white, lilac, and deep crimson being found amongst them, as well as the normal primrose colour. In arranging these in a greenhouse it is well to group them in gradations of one colour, otherwise the variety is so great that they are apt to lose their refinement of character, which is never the case when care is taken in the juxtaposition of tones. The fine race of *Polyanthus* Primrose may be used in the same way, and if there be no wild garden or bit of mossy woodland where they can be grown as Nature would have them, it is a moot question whether the next best way of enjoying these beautiful plants is not in the cold greenhouse, coaxed into flower a little in advance of their kith and kin out of doors. *Primula Sieboldii*, of very different character to either of the above, is another elegant species, especially when the best hybrid forms are chosen, as the type unfortunately has flowers of rather an ugly shade of rose-purple, but this has been much improved upon by careful selection and inter-crossing. This Primrose throws up its tall slender stems and clusters of six to ten large flowers well above the pale green leaves, and is very distinct. It is also better suited for pot culture than for the garden on account of the thin fragile nature of both flowers and leaves, which are, moreover, deciduous. The creeping rhizomes, which are slender and not very noticeable, are apt to be dug up and lost in the open border, and therefore

it is a good practice to divide and repot the plants as soon as the leaves show signs of dying down. The pans, for these are best for this Primrose, can be plunged in a shady place to take care of themselves until the time arrives in the autumn to remove them to the frame or greenhouse, when they will need nothing more than a little top-dressing. Auriculas, too, of the so-called alpine section, are very good, and it is interesting to raise seedlings both of Primroses and Auriculas, taking care in the first instance to buy seed of a thoroughly reliable strain, and afterwards by rigorous selection and casting away of all doubtful and mixed colours, to work up a first-rate stock of one's own choosing. All these are common every-day plants, yet a most effective greenhouse display can be made in early winter and spring out of materials such as these, with a few bulbs and hardy greenery to match.

It is more interesting still to grow uncommon plants. One such, not to wander from the Primrose, is a Javan species, which has been known for perhaps half a century to explorers by the name of the Royal Cowslip, but is nevertheless comparatively new to cultivation and is still rarely met with. The climate of Java is tropical, but it has lofty mountains, whereon, at an elevation of some 9,000 feet, *Primula imperialis* is found in company with Buttercups, Violets, Honeysuckle, and other familiar English plants, choosing, however, only to grow in moist, cool spots, under the shade of bushes or in thickets. As far as is known, this particular species is to be found in no other part of the world. To give some idea of this giant of its race, it may be said that it sends up a stout flower stem some 3 feet high, from a rosette of very large and long Primrose-like leaves. The flowers, which are borne in whorls—in this respect resembling some other Asiatic *Primulas*—are of a shade of yellow, deepening into orange, peculiar to itself, and it is in all ways, when well grown, a fine and striking plant. The difficulty has been to get foreign seed to germinate, but ripe seed has now been perfected by home-grown plants, and probably it only needs, like so many of the Primrose family, to be sown as soon as ripe to sprout quickly and freely. The Royal Cowslip may be given as a type of many another rare and beautiful plant which will adapt itself, under loving culture, to the cold greenhouse. Nevertheless, it takes some enthusiasm, no less than painstaking, to enable us to get off the beaten track of every-day garden routine and seek out for ourselves the far-off treasures of distant lands.

K. L. D.

NOTES ON HARDY PLANTS

THE GREAT ALPINE ROCKFOIL.

AS shown in the accompanying illustration, this is one of the most beautiful Saxifrages that could well be grown, and all who possess a garden, however small it may be, can have this floral pyramid in the greatest perfection without artificial heat. It is biennial so far as that the rosettes producing the flowers die when the season is over, but previously from the base of these old crowns are produced from six to a dozen or more of young ones ready to take their place the next year. When the plant is used for indoor decoration, these young crowns are taken off and potted in good rich compost, grown on in a cool north house or frame, and shifted as required, until finally, they reach the pots in which they are intended to flower. When the plants become pot-bound, a weak solution of liquid manure will



THE GREAT ALPINE ROCKFOIL (*SAXIFRAGA PYRAMIDALIS*). (From a photograph sent by Mr. S. W. Fitzherbert.)

be found beneficial. On the rock garden the plants require to be planted annually, and new soil should be given them when this takes place; 6 inches apart will be sufficient, and, if vigorous and healthy, the plants will very soon almost meet each other. They make a pretty group in the open, and are much appreciated by those who have only seen the wild species on the Alps.

NEW CUSHION IRISES.

THE *Oncocyclus* Irises have been much enriched by the addition of two really magnificent varieties of strong growth, with flowers equal to those of the best of the genus. Moreover, one year's cultivation, though insufficient for a definite opinion, shows that they are not likely to prove difficult to manage, for 70 per cent. of the plants have flowers, many bearing more than one.

I. sofariana magnifica.—This grows 18 inches high, and has erect subfalcate leaves, and from one to two flowers, the petals of which are semi-transparent. The standards are 2½ inches wide, 4 inches long, and rich purple in colour at their bases, shading to a silver grey towards the top, heavily and minutely spotted with chocolate, and profusely veined with fine purplish tracery throughout. Though much darker, the standards have much of the elegant outline of those of *I. Gatesi*. The unusually large falls of the *I. susiana* type and shorter style branches are a rich brown-purple, whilst the signal is velvety black, a heavy beard of purple hairs extending from this black signal to the base of the claw. The flower has a certain resemblance to that of *I. susiana*, but it is much more refined, the standards and edges of the falls in particular being "shot" with a lustrous metallic sheen which intensifies, diminishes or changes under the influences of varying degrees of light. Though the flowers produced by these semi-established plants are very large and beautiful, they do not appear to have attained more than half the size of dried specimens collected in a wild state. The other, a great beauty, has been called

I. lupina robusta.—It is similar in stature to the foregoing. The standards are silver grey, veined with brown, deepening near the mid-ribs to a glistening bronze. The style branches are coloured old gold with grey crests, veined with brown, whilst the falls, which are smaller than the standards, are old gold, or rather paler, "shot" with tints of pale green and grey, and veined with

very delicate tracery of a bronzy tint, the middle of the blade being furnished with a "signal" spot of royal purple as large as a shilling piece. The beard running along the claw of the blade is of a rich yellow tint. Nothing short of a well-executed water-colour painting could convey a correct portrait of these Irises to the mind of the reader.

GEO. B. MALLETT.

TULIPA MICHELIANA AND T. GALATICA.

I AM glad that Mr. G. B. Mallett admires these Tulips, both of which add greatly to the interest of a garden, alike by their beauty and by their general distinctness from others of this varied family. I added both of these to my collection in 1901, and have been pleased with their flowering this spring. The first is a species which reminds one much of *T. Greigi* before it comes into bloom, although the marking of its leaves is not so bold or conspicuous as on the foliage of that fine species. When in flower it is, however, apart from the colouring, quite distinct from *T. Greigi*, being of taller habit and the length of the stems more in proportion to the size of the flowers. *T. galatica* is a distinct thing, and one is pleased to see that Mr. Mallett considers it a true species. One cannot improve upon the descriptions of these flowers as given by your contributor on page 357-8.

S. ARNOTT.

CAMASSIA LEICHTLINI SEEDLINGS.

SOME seedlings of *Camassia Leichtlini* were offered by a firm of the highest repute in England during the course of last autumn. They were said to be varied in colour and in shade, and those who like the appearance of the Quamashes could not fail to be attracted by the prospect of adding some new flowers to their collections. Of the few bulbs I purchased the greater number have already flowered, and only one or two are still to open, and I must say that I have not yet seen any reason to regret the cost, not a great one. These seedling varieties have generally produced very handsome spikes of flower, and the colours have varied from almost pure white to a rather deep blue, with some intermediate shades of pale blue and lilac. I regret that I do not know who is the raiser of these varieties, but the results of the work lead one to hope for a still further development of the Quamash now that someone has taken up its

improvement. With their Asphodel-like habit these Quamashes are handsome flowers for May and June. S. ARNOTT.

ALYSSUM SAXATILE FLORE-PLENO.

ONE is pleased to see that this useful variety of the Old Rock Madwort has been brought before you from that collection of treasures, Mr. Gumbleton's garden at Belgrove. It has flowered in the open garden here for two seasons now, and one can all the more appreciate its good qualities, especially after a storm of rain which has taken all the brightness from the single form, while the double one is as bright as before. Unlike some double varieties of favourite flowers, the double Rock Madwort is as free in its growth and its bloom as the single, and a clump of about 1½ feet across is exceedingly cheerful looking on one of the rockeries here at present. Its propagation is effected by means of cuttings, struck under a handlight when the flowering is over. S. ARNOTT.

Carsethorn, by Dumfries, N.B.

THE ROSE GARDEN.

ROSE GROWING NEAR LONDON.

ADVICE TO BEGINNERS.

I OFTEN wonder why the amateur gardener, more particularly the suburban amateur gardener, does not go in more for Roses. I come into contact with a good many suburban residents, and I must confess that with very few exceptions they take up a position with regard to Roses and Rose growing somewhat of this kind: "Roses! Yes I tried a few standards, but they were a failure. I have a Gloire de Dijon and a red Rose I don't know the name of, but it is quite useless trying to grow Roses in my garden." Further enquiries as to his reasons for the conclusion he has arrived at, elicit the fact that he is far too near London, and that his soil is not suitable, or he lays the fault at the door of his gardener, or anything rather than the right one, which is that he is too lazy to take the slight amount of trouble necessary to find out how to grow Roses in his own particular garden. I undertake to say that there is no garden, however small, so long as sun and fresh air reach it, outside the four mile radius from Charing Cross that will not grow Roses of some sort or another, and grow them well.

I do not now propose to enter into the necessary details how to grow Roses, but the details can be found in a former article, if anyone is sufficiently curious, that appeared in THE GARDEN (see page 312) October 20, 1900.

But the Rose-showing season is almost upon us, and the great Rose show of this great Rose year, to be held at the Temple Gardens, Victoria Embankment, by the National Rose Society, on July 2, will attract many people, some of whom, as a result of their visit, will probably make up their minds to grow Roses.

If they are resident in or near London, or if they have but little experience of Rose growing, a word or two of advice, what to do and what not to do, may be useful. The essential things to remember are a suitable selection of varieties, the proper preparation of the beds, and careful and firm planting.

To deal with the first essential. Rose growing for exhibition with any chance of success is not to be lightly attempted by the novice; it is a science that requires daily attention, accurate knowledge, and no little experience of the requirements of each particular Rose. At the same time, it is one of the most pleasure-giving hobbies I know, and when one has gained the necessary experience it is a hobby

that as a general rule will last one's life. That by the way. One must creep before one can walk, and that is essentially true of Rose growing. Do not go to the show and order two of each of the medal blooms, and two more each of such others as take your fancy. A lady friend sent me a list of Roses after last Temple show that she proposed ordering. I remember that it started with six Comtesse de Nadaillac, and contained undoubtedly the pick of the most beautiful Roses in the show, but there was absolutely no chance of the trees (supposing they had been ordered) producing similar blooms to those she had seen.

No, the ordinary gardener who does not propose to show Roses, but wants good blooms and plenty of them, can get them now for the asking, which he cannot do if he wants show Roses. He also could not have done this ten years ago. Few gardeners (and particularly the local nurserymen, and more particularly the handy-man, who tidies up,) realise the great change, a revolution one might not incorrectly term it, that has come over the Rose world in that space of time. It is possible now to have beautiful Roses not flowering as they used to in July only, but from June to November continuously without a break if a good selection has been made.

These are the Roses to start growing. They are easily managed, hardy, and most satisfactory; they are popularly termed garden or decorative Roses, and comprise Hybrid Teas, some of the Teas, and the China Roses; for a selection up to date, and so arranged as to meet the requirements of all and sundry, I would refer your readers to a little pamphlet issued by the National Rose Society, price 7d., to be obtained of the secretary, Mr. Mawley, Rosebank, Berkhamstead, entitled "Hints on Planting Roses," containing lists in order of merit for all purposes, garden decoration as well as show, compiled from the returns of the leading Rose growers throughout the kingdom. And, further, if they really care for the Rose and are interested in it, they cannot do better than join the National Rose Society before the Temple show, namely, at once. The yearly subscription is only 10s. 6d., for which nominal sum a member obtains three 5s. tickets, admitting to the private view of the Rose show at the Temple Gardens. He has also the right to apply for and obtain free a 7s. 6d. ticket admitting him to the Rose conference and show at Holland House, Kensington, on June 25, and, further, he obtains a number of pamphlets, &c. (that are alone worth his 10s. 6d.), dealing with Rose culture in all its aspects, and containing a fund of useful information. I venture to think that few societies can offer their members such a return for their subscription as this.

I could write at length of the pleasures of Rose growing. My own garden is small, far too small to meet the requirements of its owner, but the Roses it produces during the season can be numbered by the thousand. There is no flower better worth the growing than the Rose, no flower better worth the picking, and no flower better worth the giving away, and no Roses are as beautiful or give you such a keen sense of enjoyment as the ones you have grown yourself.

HERBERT E. MOLYNEUX.

Brantwood, Bullham, S.W.

ROSE AURORA (H.T.).

THIS beautiful Rose was well exhibited at the recent Temple show, and proved its value as a pot Rose. Although we have so many pink Roses, this variety is so distinct in its shell-pink clearness

and with the silvery margins to the petals, that everyone who has many calls for Roses of this colour for cutting would do well to get up a stock of it. The buds are clean and particularly bright, the half-open flowers are very beautiful, and the fully-expanded blossom of large size, quite flat in form, reminding one of a lovely old Rose now almost extinct — Marguerite de St. Amand.

Aurora maintains its freshness right from the opening bud to the fully-developed flower. This gives it much value for potwork. Fine long-stemmed flowers may be cut that come in so useful for table or vase decoration, and it has a quality which it shares equally with La France and its reddish sport Duchess of Albany, and that is fragrance. I have noticed some writers describe Caroline Testout as being fragrant. True, it has a tea-like fragrance, but the perfume that seems to belong to a Rose is that which is to be found in La France and Aurora. Whether grown indoors or out Aurora must be severely disabused, not only in removing the surplus flower-buds, but also the growth buds down the whole length of the shoot, if they start, as they very often will. P.

A WEST ROSS-SHIRE GARDEN.

(Continued from page 377.)

THE MARCH SHRUBBERIES.

LAST March (1901) the shrubberies were visibly progressing, though there was not actually much blossom; the *Prunus pissardi* and the *Forsythias* were fully out, and an interesting shrub, *Nuttallia cerasiformis*, whose leaves, like the Honeysuckle, are among the very first to show green in winter, and its flowers, which appear in March, are like snow-white copies of those of the *Ribes sanguineum*. It is curious how much alike some plants are to each other without being related. Two charming new evergreens grow side by side here, viz., *Drimys Winteri* and *Daphniphyllum glaucescens*, and though their homes are respectively in Southern Chili and Japan, one can hardly tell them from each other. I can recommend them both, and am told the flowers of the former are white and very sweet smelling. *Choisya ternata* seems proof against any amount of cold, and it is another among the newer evergreens which can be recommended. It goes by the name of the Mexican Orange, but its blooms remind me more of Hawthorn than any of the Citrus tribe. The first time I came across it was in front of the Monte Carlo Casino, in full bloom, in April. Talking of the Citruses reminds me of some big bushes of a hardy Orange (*Citrus trifoliata*) which I came across in Paris three years ago. Here they seem quite hardy also, and we hope for Orange blossoms out of doors one of these fine days. To anyone wanting shrubs to grow by the sea in a terribly blasty situation, let me recommend the *Pittosporums*. I think they mostly come from New Zealand; at any rate, like the *Eucalypti*, their leathery leaves seem proof against any amount of wind and salt spray. *P. crassifolium*, *P. Ralphi*, and *P. nigricans* are all so good in this way and so ornamental as well.

APRIL BLAZE OF BEAUTY.

During April I was away from home, but on my return at the end of May what a blaze of beauty was there seen, ninety different varieties of Azaleas in full bloom in one big bed, consisting of most of Van Houtte's very best kinds. I had also a few outstanding good summer-blooming *Rhododendrons*, and among them were some kinds I had specially picked out of the collection at Kew—viz., *Ascot*, *broughtonianum*, *Fastuosum flore-pleno*, and the new *Pink Pearl*. When in Jersey I found the natives there were very proud of their *Buddleia globosa* bushes, but I saw none better in bloom than mine was in June. My *Buddleia Colvillei* also have grown into huge bushes, and both they and the *Abutilon vitifolium* are 7 feet or 8 feet high, and I expect that 1902 will see them in full blossom. *Buddleia variabilis* bloomed freely with me though only two year old seedlings, and they were covered with their lilac racemes. The Madeira Broom was grand in July, and the Spanish Spartium equally

so in September. One day in July I gave some friends two handfuls of flowers, which were immensely admired. The one consisted of about twenty perfect specimens of *Calochorti* and *Cyclobothras*, the other of sprays of *Zenobia pulverulenta*. Why in the world do not people go in for these Butterfly Tulips or Mariposa Lilies? They are so exquisitely lovely, and always remind me of some fancy flower painted by Japanese artists on a satin screen, being almost too wonderful to be real. I got mine from Messrs. Wallace, of Colchester, and they are not at all costly. The *Zenobias* are a kind of *Andromeda* (from, I think, North Carolina), with the purest white Lily of the Valley-like flowers hanging to their delicate branches, and their leaves are of the palest green and silvered over with a kind of bloom or powder, hence the name *Pulverulenta*. They stand the winter quite well here, though not quite so robust as *Andromeda floribunda* and *A. japonica*. The latter entirely escaped my memory till now, as it ought to be crowned Queen of the March flowers. I sent in March some of its boughs laden with blossom, in tin boxes, to friends in Jersey and on the Clyde, and they will hardly yet believe that they were not grown under glass; and they, and their still more magnificent cousin, *A. formosa*, which caught many an eye at Messrs. Veitch's stand at the Temple Show, are all as hardy as Laurels, and a deal more interesting and useful.

OUT-OF-DOOR DICKSONIAS.

My big *Crinodendron Hookeri* bloomed, but was rather upset by having been shifted to what I hope is a better situation, and it consequently dropped some of its buds; but now it is covered with a fresh crop, all ready to turn into those gorgeous crimson Chinese lanterns which it will produce in June. I am very hopeful of my out-of-door *Dicksonias*; they have now stood out three winters, and the best of them was grown from spores produced by the famous Tree Fern of Arran, which should be much in its favour. So I can now boast of having *Eucalypti*, *Dicksonias*, and *Cordylines*, all from Scotch-ripened seed, the latter, though natives of New Zealand, having been raised at Scourie, in the north of Sutherland. The *Indigofera* bloomed profusely with me this last season, after having stood right in the open for some years without showing a flower; it just shows that one must have a little patience. It very much resembles the Australian purple *Swainsonia*, and is very pretty and uncommon. *Abelia rupestris* did very well, and *Eucryphia pinnatifolia*, from Southern Chili, made a good beginning, its blossoms being like white Dog Roses, but with crimson instead of yellow anthers, as in the Roses. If anyone were to ask me which above any other of the newer shrubs I would recommend, I think I should say get *Romneya Coulteri*, the Californian Tree Poppy. The flower is like a single white *Pæony Moutan*, with a great boss of gold in the centre, only with the petals more delicate and silver-paper like, but the foliage and stalks are as striking as the flowers, being of a peculiar pale sea-green, which sets off the blossoms to perfection. I do not think it is a very hardy plant, and it would be the better for a warm nook or corner. It is a most persistent bloomer, and certainly my *Incarvilleas*, my *Romneyas*, and my paniculate *Hydrangeas* were the plants which were most admired inside my garden last year. As I said of the *Eucalypti*, what a pity people have only just found out that Palms and Bamboos are quite hardy. There are young plants of *Bamboo* here (*Arundinaria Simoni*) which made shoots of 10 feet last season.

AUTUMN-TINTED LEAVES.

But I fear my notes are getting rather too long, so must leave the description of my many other treasures for another time, but must just finish up by saying I think autumn-tinted leaves come quite up to flowers, and if anyone doubts me let him make a bed and fill it with *Pyrus arbutifolia*, *Andromeda arborea*, *Oxydendrons*, *Vaccinium pennsylvanicum*, a lot of the finest of the Japanese Maples, *Gaylussacias*, *Enkianthus campanulata*, &c., and he will have tints and shades in late autumn that are far before those of *Geraniums* and *Begonias* at midsummer.

ORCHIS LONGIBRACTEATA.

THE subject of this woodland group is a handsome *Orchis* of vigorous growth and foliage that is found wild on the Riviera. It has the recommendation of being a real winter bloomer, beginning to flower at Christmastide. It loves the shelter of scrub *Ilex*, *Lentisk* or wild *Olive*; its most delicious scent is wafted to you on the breeze on a sunny morning, so that is a compensation for the rather dull colouring of the sepals. The lip is lilac, and the long bristling bracts give it a character of its own. It is a pity it is not quite suited for outdoor gardens in England generally, but no doubt it would accommodate itself to some sheltered woodlands in or near the south coast. It loves a calcareous soil, and is happy with *Anemone blanda*.

E. H. WOODALL.

THE FRUIT GARDEN.

AUSTRALIAN BLACKBERRIES.

BLACKBERRIES thrive more luxuriantly in Australia than in Europe or America, their growth being so rapid that in many places they are regarded as an agricultural pest. In some localities, however, the settlers and their families gather the fruit in considerable quantities for sale to manufacturers of fruit preserves and jams. In New South Wales, what

is known as the "Blackberry country" is found in the beautiful coast districts south of Sydney, although the fruit is plentiful in many other parts of the State. The trip by the railway, running between Sydney and Melbourne, to "Blackberry land," is a most delightful one, and as Burrawang, an old-fashioned village seldom found on the maps, is approached, the country assumes a strongly rural aspect. The village is situated on the crest of a hill, formerly known as Mount Pleasant, a name well applied by reason of the numerous charming views obtained in almost every direction. In the deep valley which skirts the roadside there is seen an abundance of Tree Ferns, rock Lilies, and other sub-tropical plants. "Around the village," says an enthusiastic visitor, "the formation is a succession of vivid knolls, and the red road winds and curves by the margin of a shadowy ravine overgrown with Ferns, creeping plants, and many sorts of shrubs. The road ascends a hill clothed thickly with beautiful woods, and the foliage is so dense overhead that the shadows beneath are deep, cool, and sombre, contrasting vividly with the sun-illuminated road beside it." Further on a noble view of what is known as the Winge-

carbee Swamp is obtained. The surrounding land is extremely rich. Formerly the forest was more dense than at present. In early days there were many trees of gigantic proportions, having stems of from 80 feet to 120 feet without a branch, and measuring as many as 42 feet in circumference. But here, as everywhere else, the ancient monarchs of the forest are rapidly disappearing. The swamp is about 11 miles in length, and lies at an elevation of 2,058 feet above the sea level. Approaching the township of Robertson, so named from a former State premier, the landscape becomes yet more charming. It is, to again quote the language of a visitor, "really lovely—hill and dale, emerald green slopes dotted with clumps of dark green bushes, and round hills with bits of clustering wild wood; while the whole is tinged round with a circle of blue mountains, which make a wavy line on the horizon."

The township, which forms the headquarters of tourists in "Blackberry land," nestles cosily in a bright green valley between a couple of sheltering hills, at an elevation of 2,500 feet above sea level, which explains the salubrity of its climate. It consists of a single street, through which passes the road from Moss Vale to Kiama. Everybody seems to be more or less mixed up with the dairying industry, and milk and butter constitute the staple themes of conversation. But the butter is delicious. Even as you must go to a Scottish fishing village to enjoy the flavour of the haddock or "caller herrin," so you must go to Robertson to taste Australian butter, rivalling the finest ever produced in Normandy. Except its situation



ORCHIS LONGIBRACTEATA AND ANEMONE BLANDA IN WOOD.

—not the most comfortable in unfavourable weather—the village possesses little of the picturesque; but it possesses a park which would have filled the heart of Washington Irving with joy. It is a place of which the villagers are justly proud. "It is," says the writer before quoted, "simply indescribably lovely." Great, tall trees stand so closely together that the branches interlace, and throw shadows so deep, calm, and solemn that to walk beneath the foliage in the dim light and in the stillness profound makes one feel as if one were in church. The great tree trunks are lichen-covered, and the brown, grey, Venetian reds and ambers that colour the outer bark would make an artist rave. Vines trail and wreath themselves around the trunks of the trees, twisted like ropes, knotted and curled, and reaching upward and still higher, until the sunlight is found. Beautiful, glossy-leaved shrubs, both tall and dwarf varieties, and Fern Trees fill up the interstices of the forest primeval until scarcely a ray of sunshine can penetrate leafy recesses. Every gnarled root, every loose stone, is covered with a veil of green moss. Ferns of many varieties and delicate green plants grow so thickly that the ground is completely covered. A few circuitous paths that have been cleared are thickly coated with a carpet of dry leaves upon which no footfall sounds. All is silent, impenetrable, mysterious, and a grey dimness veils, and makes picturesque, the whole perfect scene. But the Blackberries, they are everywhere, like the salt water in Coleridge's "Lay of the Ancient Mariner." The hedgerows are covered with them, and if the villagers were not too busy with their dairy work they might make tons of Blackberry jam such as has never been tasted out of the old country. Like the first rabbits, the original Blackberry vines have grown and multiplied until they bid fair to cover the face of the country. It is a sight, during the season, to behold large numbers of men, women, and children busily engaged in collecting the luscious fruit, and placing it in baskets ready for despatch by rail to Sydney. The berries are large and of delicious flavour. The Blackberry bushes are not cultivated—they can look after themselves, as many Australian agriculturists are painfully aware—but the jam made from their fruit is sufficiently tempting to make one forget their unwelcome presence on the farm. J. PLUMMER.

Sydney, Australia.

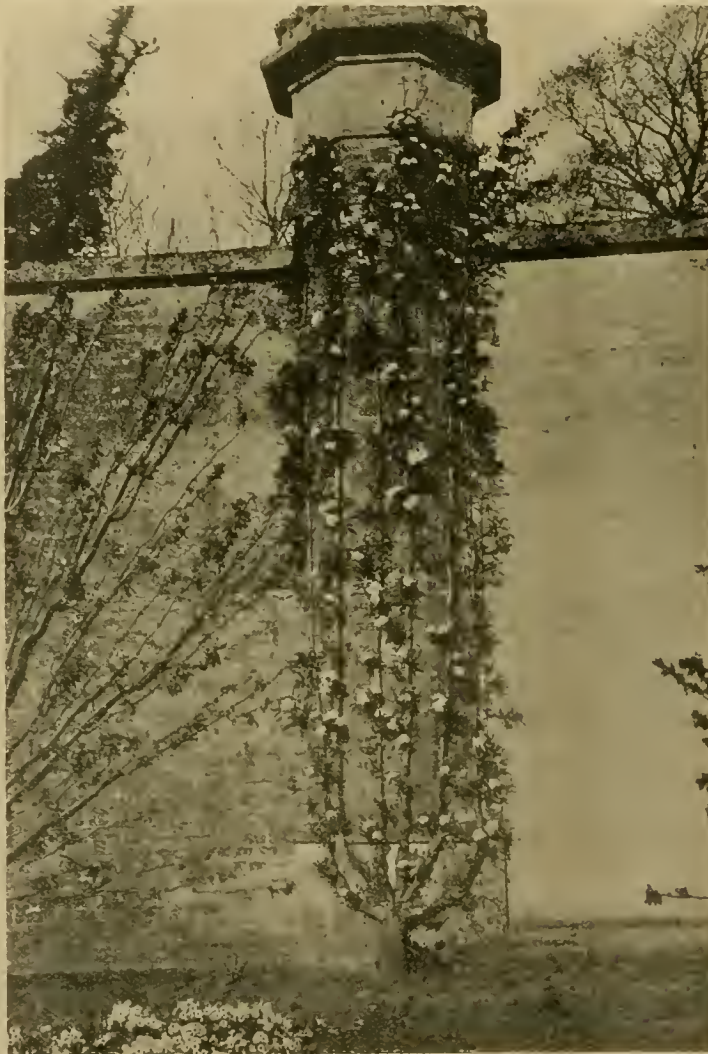
FRUIT TREE ON PILLAR.

THE accompanying illustration needs but little description. It shows one good way of beautifying a pillar apart from the conventional use of Wistaria, Rose, and other flowers. Here it has been taken possession of by an espalier Pear tree, which Mr. Divers, the excellent gardener at Belvoir Castle, where this tree is, has trained with the utmost care. Whether in flower, leaf, or fruit, this espalier is pleasant to see, and the pillar seems exactly built for such a useful adornment.

RAPID VINE GROWING.

I WOULD very much like to learn the opinion of experienced Grape growers as to what may be their anticipations as to the future of Vines grown under the following conditions: A couple of lean-to vineries, which had both inside and outside borders, had to be cleared out and replanted at Castle Hill, Bletchingley, Surrey, the residence of Mr. H. Partridge. This was in the spring of 1900. The arches in the front wall were built up, the old

inside border replaced with a new one 3 feet wide, and on May 5 strong pot Vines were planted by Mr. Barks at 4 feet apart along the front of each house. The first one and earliest forced contains chiefly Black Hamburg, with just one Vine each of Madresfield Court, Foster's Seedling, and Buckland Sweetwater. The other house has later varieties. These strong canes were not cut back, but with about 5 feet of stem to each left erect; the tips were then bent downwards, and, with every lower break forming a lateral, the top break of the erect stem was taken upwards as a leader. No fruit was carried that season, and, whilst the laterals grew strong, the leaders went to the top of the house. In the winter, whilst the laterals were hard spurred, the leader or main rod was



PEAR TREE ON PILLAR IN THE GARDENS AT BELVOIR CASTLE.

shortened only some 3 feet. When pushed into growth in the new year, 1901, every bud broke freely, and every portion of each rod was well furnished. Only four bunches were taken from each Vine that season, and the leaders fully filled the apex of the house. This year the rods are their fully desired length of 18 feet, and are carrying each ten bunches, all of good size and full of promise. The laterals throughout are all stout and vigorous. Certainly it does look as if each rod could well carry fifteen to eighteen bunches and fine ones next year. The border is now extended to 6 feet. The question is: Does this style of Vine growing present any features of novelty, or are the Vines so rapidly extended likely to break less well when older? So far everything shows that the results will be quite satisfactory. A. D.

THE MOUNTAIN PRIMULAS.

(Continued from page 360.)

SAXATILE OR ROCK-LOVING SPECIES.

P. INTEGRIFOLIA (L.) syn. *P. candolleana* (Reich.).—From the central limestone Alps and the Pyrennees, between 3,000 feet and 7,000 feet. This species, like *P. glutinosa*, grows in crowded colonies and forms turfy masses, quite replacing the turf over large spaces in the places where it occurs. It is a low, tufted plant formed of numerous rosettes of leaves that are entire ovate-elliptical, absolutely smooth and dry (non-glutinous), ciliated at the edges; flowers of medium size, of a lilac-rose colour, one to three carried on short peduncles. Plants with white flowers are sometimes found. Reichenbach figures it in "Icones," xvii., t. 58.

It is easy enough to grow, but the blooming is somewhat capricious; it should be in half sun, in light, well-drained calcareous soil.

P. intermedia (Port) syn. *P. Portenschlagii* (Beck), *P. floerkeana* (Salz.), is a hybrid of *P. clusiana* and *minima* which is found, though rarely, in the mountains of Styria and Lower Austria. Figured by Reichenbach, "Icones," xvii., t. 65, ii.

P. jellenkiana (Freyher) a synonym of *carniolica*.

P. Kernerii (Goebel).—One of the numerous hybrids of *Auricula* and *villosa*, very near *Goeblii*, probably nothing but a garden *Auricula*.

P. kitabeliana (Schott.) syn. *P. viscosa* (Waldst. et Kit.), *P. integrifolia* (Panic.).—Figured in Reichenbach's "Icones," xvii., t. 66. From the Alps of Croatia, of Serbia and Herzegovina. A species rather near *spectabilis*, apparently halfway between *P. integrifolia* and *hirsuta*; flowers pink; leaves strongly glandular pubescent.

P. latifolia (Lap.).—A synonym of *P. viscosa* (All.)

P. longobarda (Porta).—This is a variety of *P. spectabilis*, whose leaves are without the white dots. They are acute obovate-lanceolate. The divisions of the calyx are almost acute. It is possibly a hybrid of *P. spectabilis* and *glaucescens*. It is found in the Alps near Bergamo.

P. marginata (Curt.).—From the Western Alps, between 2,000 feet and 6,000 feet. Figured in Reichenbach's "Icones," xvii., t. 54; syn. *P. crenata* (Lam.) *P. Auricula* (Vill. non L.).

P. microcalyx (Lehm.).—A very prettyspecies, which, from its suffrutescent stem, has the appearance of a little shrub 4 inches to 6 inches high. The leaves are oblong and irregularly toothed, bordered with a light edging of whitish powder; flowers lilac-rose, from which the pistil protrudes before their expansion—April and May. There is a major variety, and another called "of Constantinople;" this, however, has nothing oriental about it except its name, as the species belongs to the French and Piedmontese Alps. The leaves are slightly crenulated.

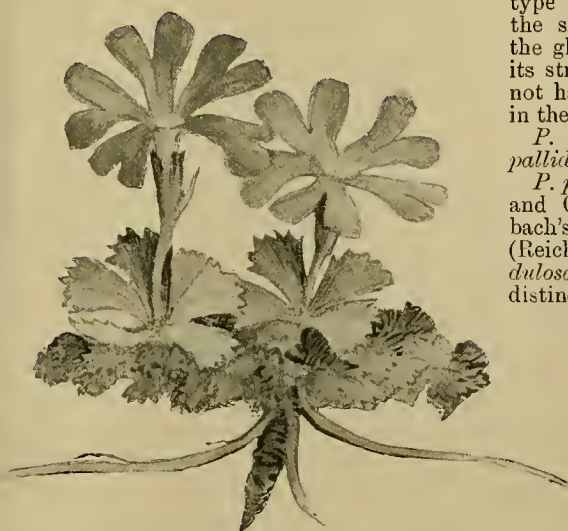
P. minima (L.), syn. *P. Sauteri* (Schulz

P. firaseckiana (Tratt).—Figured in Reichenbach's "Icones," xvii., t. 59, i. and ii. Central and Eastern Alps, from 2,000 feet to 7,000 feet, the Carpathians, Sudetes, and Balkans. A very small plant, forming crowded tufts sometimes of large size, composed of numerous rosettes of spatulate light green leaves, which are smooth and end in three to nine coarse teeth; flowers large—very large in relation to the size of the plant—single or in pairs on a very short stalk; corolla violet-rose, the limb deeply divided into five bifid lobes. It occurs only in granitic soils.

To succeed with it in my garden I have to give it the kind of treatment lately described for the Soldanellas (THE GARDEN, page 126). At the Jardin Alpin d'Acclimatation at Geneva we grow it in pans of sphagnum, and it succeeds admirably. At La Linnaea at Bourg St. Pierre it flowers well in full sun, but it needs a porous soil and constant moisture in the air. At Geneva it flowers in March and April. A white flowered variety has been known, but it is very rare.

P. multiceps (Freyher) a synonym of *P. carniolica* (Jacq.).

P. muretiana (Moritz), a hybrid of *P. integrifolia* (L.) and *P. viscosa* (All.), syn. *P. dinyana* (Lagg.).—This hybrid, which is found here and there in the Alps of Eastern Switzerland, between its parents, is well known in gardens where it does very well. It is fairly frequent in the High Engadine, especially in the rocky masses of the Albula. It is a low growing plant with obovate leaves furnished with



PRIMULA MINIMA (LIFE SIZE).

brown hairs. The leaves gradually diminish in width to the petiole. They are either entire or very slightly toothed at the top; the flowers are a very dark purple or crimson in clusters of three to ten, of charming effect, on stalks 3 inches to 4 inches long. It likes a northern exposure in rocky fissures.

P. obovata (Huter) hybrid of *P. ciliata* (Mon.) and *tyrolensis*.—It was found by Huter in 1872 in the district of Belluno. I have never seen it in cultivation.

P. Obristii (Stein).—A hybrid of *P. Auricula* and *ciliata*. It appears to me to be simply *Auricula*. I have never been able to detect any specific characters. Pax considered several of these hybrids as simply garden forms.

P. cœnensis (Thom.) syn. *P. duonensis* (Leyb.), *P. stelviana* (Vulp.).

P. pooliana (Brügg), *P. cadinensis* (Porta), *P. Plantæ* (Brügg).—Figured in Reichenbach's "Icones," xvii., t. 55-59. From the Alps of the Grisons and Tyrol where it grows abundantly in the alpine pastures at 5,000 feet to 7,000 feet. It is near *P. hirsuta* (All.), from which it is distinguished by its thick-set habit, its more crowded tufts, and its leaves, which are lanceolate-cuneiform, very slightly toothed, thick, and extremely viscous. The flowers are small, carmine-rose, with a large central white eye. The capsule is as long as the calyx, while in *hirsuta* it is shorter.

P. Palinuri (Petag.).—Figured in *Bot. Mag.* t. 191. This rare and curious species grows in the joints of rocks in the Neapolitan Apennines, above Cape Palinuro. It is an exaggerated *Auricula*, larger and stouter, distinguished from the

type by the leaves being finely serrated, by the smaller flowers on larger pedicels, by the glandular-viscous leaves, and above all by its strongly developed foliaceous calyx. It is not hardy at Geneva, and has to be wintered in the orangery or a cold frame.

P. pallida (Schott.).—See *P. hirsuta* var. *pallida*.

P. pedemontana (Thom.).—From the Graian and Cottian Alps.* Figured in Reichenbach's "Icones," xvii., t. 57, syn. *P. pubescens* (Reich.), *villosa* var. *glandulosa* (Duby), *glandulosa* (Bonj.), *Bonjeani* (Hug.).—A plant of distinct character, very beautiful on the rocks in the valleys of Cogne, Champorcher, Valsavaranche, and Valgrisanche in the Val d'Aosta. It is near *P. viscosa*, (Adl.) from which, however, it differs notably by its rhomboid leaves with very short petioles set on both sides with sparse brown hairs, and by the length of the capsule never exceeding that of the calyx—in *viscosa* the capsule is always the longest. The width of the leaves is very gradually

diminished into the petiole; they are arranged in large rosettes, from which spring the flower stalks, often several, each bearing many flowers with bright crimson corollas. The whole plant is furnished with brown hairs. It grows easily in the joints of rocks in half sun, and with us flowers freely in March and April.

P. Peyritschii (Stein).—One of the many hybrids of *P. Auricula* and *hirsuta*, frequent at the Croix de Javernay, in the Vaudois Alps, but hardly to be distinguished from *P. Arctotis*.

P. Plantæ (Brügg), a synonym of *P. cœnensis*.

P. polliniana (Mor.), a synonym of *P. spectabilis*.

P. pooliana (Brügg), a synonym of *P. cœnensis*.

P. Portæ (Huter).—Alps of the southern Tyrol between 3,000 feet and 6,000 feet. A hybrid of *P. Auricula* and *cœnensis*, distinguished from *Auricula* by its non-farinaceous calyx and by its glandular hairy flower stem, and from *cœnensis* by its long-peduncled flowers and by its broad and only slightly glandular leaves. Flowers bright carmine, occasionally yellowish, but variable in colour. This plant has assumed gigantic proportions at the garden of La Linnaea, bearing umbels of more than forty flowers and ripening a quantity of seed.

P. pubescens (Jacq.).—A hybrid of *P. Auricula* and *hirsuta*, frequently met with in its alpine habitats *inter parentes*. It was figured by Reichenbach, "Icones," t. 68, and resembles *Auricula* more nearly than *hirsuta*. The leaves are almost glabrous and the calyx is mealy. It is very near *P. Arctotis*, which is only distinguished from it by its distinctly glandular leaves, its non-glandular calyx, and its nearer resemblance to *P. hirsuta*. This plant is considered to be the true parent of all the garden Auriculas. It is probable enough that this may be claimed either for *P. pubescens* or for *P. Arctotis*, which are quite likely to have themselves crossed, and, as in the case of so many hybrids, have resulted in a race of polymorphous plants of strong constitution.

P. pumila (Kern.).—From the Southern Tyrol; a hybrid of *P. minima* and *cœnensis*



PRIMULA PEDEMONTANA (LIFE SIZE).

* It is in error that Pax in his "Monographie," page 157, places this species "In Switzerland on Mont Cenis." It is neither a plant of France, nor of Switzerland, and has never been found elsewhere than in the Graian and the Cottian Alps in Piedmont. Nymann assigned it to "Helvetia and Lombardy." This is still more incorrect, as it has never been seen in Lombardy. It is a species that belongs absolutely to Piedmont.



PRIMULA TENENSIS (LIFE SIZE).

that grows in the joints of the calcareous rocks of the Magassione at 6,000 feet. I do not know it.

P. Rhetica (Don, non Resch.), figured in Reichenbach's "Icones," xvii., t. 65, is a hybrid of *P. Auricula* and *hirsuta*, rather nearer *hirsuta* than *pubescens*, and therefore very near *Arctotis*, except that the calyx is mealy.

P. salisburgensis (Floerke) is a hybrid of *P. glutinosa* and *minima*, and very near *P. flowerkeana* (Schräd.).

P. similis (Stein).—A hybrid of *P. ciliata* and *Auricula*; according to Pax probably of garden origin.

Geneva.

H. CORREVON.

(To be continued.)

CORRESPONDENCE.

(The Editor is not responsible for the opinions expressed by correspondents.)

BERBERIS NEPALENSIS.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—Your correspondent "C. E. F." is quite right in saying that raising the above shrub from seed is slow work; it is certainly one of the slowest of the family in this respect. At any rate, in its early stages it has the rather awkward habit of sending its thong-like roots straight down into the soil below. Consequently frequent transplanting is essential. *Berberis nepalensis* is a great favourite here, consequently some trouble has been taken in the choice of a suitable site for it, and in this respect it is somewhat particular; it certainly resents full sunshine. The place best suited to it is the one chosen by your correspondent, viz., partial shade. It also dislikes disturbance in any shape or form. Plant it on good loamy soil with a little shade—but neither an easterly nor draughty aspect—and where it can get ample moisture. It must not be pruned severely, as it does not break so freely after pruning as in the case of such Barberries as *B. stenophylla*, *B. vulgare* var. *purpurea*, and a few others. It is of upright growth, and when it is well clothed with fully-developed foliage down to the ground is an object of much beauty. This *Berberis* differs from *B. japonica* in having fewer flowers. The leaves are not so long as in *B. japonica*, and I do not think it is so hardy. At any rate I find that the late rather sharp frost killed several, whereas *B. japonica* did not suffer in the least.

B. japonica will not bear exposure to full sun. This also does better when sheltered from the keen easterly winds. The *Berberises* have flowered well this season. *B. Darwinii* and *B. stenophylla* have

been a mass of blossom. The latter is unsurpassed as a wall plant when given its liberty, but how often is it clipped with the shears as if it were Ivy?

T. ARNOLD.

The Gardens, Cirencester House.

THE LONDON DAHLIA UNION.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—Under this heading, on page 351, "A. D." states, in reference to the Dahlia Exhibition at the Royal Aquarium in September next, "Why could not those who wanted a second London Dahlia show in September have instituted it under the auspices of the parent or National Society? Certainly the National executive, as such, never were approached on the subject." I want his authority for the last positive statement. If only "A. D." would try to grasp the real facts before he brings his muck-rake into use it would save him from many indiscretions. "A. D." appears to be quite unaware of the fact that a Dahlia show has been held in the month of September at the Royal Aquarium for some twenty years past.

R. DEAN, Secretary.

YELLOW AURICULAS.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—Messrs. Storrie and Storrie, of Dundee, who have done so much to improve the yellow border Auriculas and with so much success, brought a further batch to the Temple show, but practically destroyed their interesting individuality by mixing them up with variegated Kales and Oxlips. Mr. Storrie said that one of their lines of improvement was to withdraw from their strain the zone of white paste round the tube and bring them to self yellows. I regretted such a statement, as I had hoped their object was to give us a race of hardy border Auriculas, robust, free, floriferous, which should produce trusses of deep yellow flowers approaching the show variety—Buttercup—in quality. A self yellow Auricula looks poor and expressionless by the side of one with the ornament of a zone of white paste, which is the state jewel of the flower round the golden tube, and having a stout circular deep yellow margin. We have plenty of yellow Auriculas of the type of Celtic King, and that inferior form—Alexandra. To descend from the higher to the lower form appears deplorable. I have secured a few of Messrs. Storrie and Storrie's deep yellow seedlings, and it is my intention to work by them in the very opposite direction to that, along which the Dundee firm are proceeding. I recently sent to a lady, who wishes to have beds of yellow Auriculas next spring, plants of Celtic King, Alexandra, and some of Messrs. Storrie and Storrie's seedlings. Celtic King found some favour with my correspondent; Alexandra she thought so inferior that it brought me a sharp letter of remonstrance for sending it; but a little later, when I was able to send her some of the Dundee seedlings with their much deeper tints of yellow and zones of white paste, her admiration was unbounded. I think this lady's estimate of a bedding Auricula, as evidenced by her appreciation of the superior flowers, is the correct one.

R. DEAN.

INSECT PESTS.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—Under this heading Mr. Petts (page 313) writes an instructive article upon the Pear midge, plainly elucidating its modes of existence, its methods of damaging crops, and giving advice respecting its destruction. This is good counsel, and it is the duty of each of us to do our utmost to exterminate this pest, but, as Mr. Petts observes, and as a Mr. Crump of Madresfield years ago pointed out, owing to the midge's power of taking long flights it is comparatively useless for one individual to go to the trouble and expense of combating it if his neighbours neglect to take similar means for its destruction. What is to be done, however, in districts like this

for example, where Perry varieties of the Pear tree, vying in size with the Oak, are quite common upon most farms. It is quite impossible to gather diseased fruits upon such trees, and it can hardly be expected that they will be sacrificed, and so long as they live or similar ones are cultivated we shall, it appears, be bothered with the ravages of the Pear midge, unless some more efficient remedy for its destruction than has so far been recommended is forthcoming. Cannot one of our horticultural chemists (they have already done much for us) prepare a solution with which to spray the trees when they are in bud, that, harmless to the trees and blossoms, would be obnoxious to the taste of the midge?

My experience of gathering and burning affected fruits as a remedy is not encouraging, but at the same time our experience with the midge proves without doubt that it travels a considerable distance, as will be seen when it is remarked that some years ago we formed a fruit garden a long way from any Pear trees, and planted young trees, that were badly attacked with the midge the first year of fruiting, and have been so since more or less every year. Last year we gathered and burned the damaged fruit before the pest had left them, yet, singularly enough, at the present time it proves to be more destructive than ever. The varieties suffering most are Durondeau, Beurré Bosc, Emile d'Heyst, Souvenir du Congrès, and Williams' Bon Chrétien. The least injured are Doyenne du Comice, Baronne de Mello, Beurré



PRIMULA MARGINATA (LIFE SIZE).

Fouqueray, Marie Louise, Beurré Hardy, and some others. The last-named has almost entirely escaped.

I would like to refer to the Apple blossom weevil, which sometimes works great destruction, although a friend lately told me he thought it did more good than harm by saving trouble in thinning the fruit. Be this as it may, most growers of the Apple would probably rather be without it in their plantations. Notwithstanding that we never fail to yearly spray our trees with the ordinary compound of caustic soda, &c., and keep the ground beneath the trees clean, we usually have some blossoms spoiled by this insect. Yet at no time is serious injury done, and this season we appear to be absolutely free from it. Rightly or wrongly, I attribute this in a measure to the assistance of the weather. After spraying the trees we lightly turned the surface soil, dressed it with artificial manures, and raked them in. This left the soil, which is rather retentive, fine on the surface, and which by heavy rains was turned as it were into a mass of cement, and effectually trapped any weevils taking refuge in the soil, whilst the spray killed those on the trees. The plantation of Pears was treated in like manner, but we evidently had a foreign invasion.

Monmouth.

T. COOMBER.

ERICA CARNEA.

OF all the hardy dwarf Heaths more can, I consider, be said in favour of *E. carnea* than of any other species. It is not only absolutely hardy, but it flowers with astonishing freedom at a time of year when flowers are particularly cherished. Its flowering, of course, somewhat depends upon the weather, but frequently one may see its bright rosy bells almost as soon as January comes in. By the end of February the entire plant is a mass of beautiful colour, and for two or three months longer they retain their freshness no matter what weather may occur. So free-flowering is this Heath that its flowers literally cover it. *E. carnea* is one of those plants (and there are many of them) which, although perfectly well known and quite common, are still not used in gardens so freely as they ought to be. The majority of our early-flowering plants bear flowers that are either white or yellow, so that the rosy red colouring of this *Erica* makes a welcome change. However freely it might be planted it would never become wearisome or out of place for its tints, though bright and warm, are not harsh. Statements have been recently published to the effect that *E. carnea* is a British plant. This idea appears to have originated with Bentham, the botanist, who regarded *E. carnea* and *E. mediterranea* as the same species. But the plant grown in gardens and nurseries as *E. carnea* is quite distinct from *E. mediterranea*: it is usually not more than 6 inches to 8 inches high, and is a native of the mountains of Central Europe. W. J. B.

"SPORTS."

It is a matter of common knowledge amongst breeders, not only of plants but of animals, that there are really two types of variation, although, as is always the case with Nature, instances occur which render it impossible to draw a hard and fast line. The one type of variability consists of those minor divergences which give individuality, and which, especially in plants, often require a very sharp eye to discriminate, or perhaps baffle the observer entirely. The other type embraces individuals

which have quite suddenly assumed more or less distinct characters, and sometimes extremely abnormal ones. As a rule, too, these suddenly-acquired peculiarities affect the reproductive system also, with the result that their progeny largely partake of the same new characters as the parents, assuming in this way a specific character between which and species proper it seems impossible to draw a line. A species recognised as such is merely a branch of a genus in which certain distinctive characters have become fixed, while the fundamental generic plan is adhered to. These distinctive specific characters are constant in the vast majority of cases, though modified in minor ways by variations of the first category, which may not be merely that of external form, but may also be constitutional, so that of two plants externally precisely similar in habits and appearance, one may be hardier than the other, or better able to withstand drought or insect or fungoid attack. In this way it may possess an advantage worth cultivating by further selection, and which undoubtedly plays and has played a considerable rôle in evolutionary history. The selective culti-

as eccentrically, and when made the subject of specially careful research, as in the case of Ferns, are proved to do so on extremely liberal lines, while departing further from the normal than any have done under culture.

Naturally the selective cultivator finds in these abnormalities not merely splendid material in many cases which otherwise would have required generations of culture to arrive at, but very often characters are presented of so original a type that his ideas are revolutionised, while, thanks to the reproductive power aforesaid, he finds ready to his hand an easy mode of propagation, plus an increased probability of further variation by which he can profit, and a possibility of introducing the new features into allied species by hybridising. To the biologist these sudden sports are of supreme interest, representing as they do absolute examples of that "special creation" which the science of evolution disclaims, but which is here strongly put beyond all dispute whatever. Generation after generation has passed and the offspring have been practically identical, the fundamental building cell has been faithful to tradition and reproduced its



ERICA CARNEA.

vator, other than the hybridiser, owes undoubtedly the bulk of his successes to variations of the second category, that is, the marked and sudden kind which may arise either as seminal or bud sports, *i.e.*, may show their new characters as seedlings from normal progenitors, or from forms which have already been modified by selection, or buds may form on plants of either category, which as they develop present the novel features. Bud sports, however, are less wide in range of departure from the parental form than seminal sports. Thus in Roses and Chrysanthemums the new varieties arising from bud sports are usually variants in colour, retaining the other parental characters intact, but here again there is no hard and fast rule, as some rampant climbing Roses were bud sports from bush forms. As regards the cause of these sudden sports we are absolutely in the dark, and, although naturally they are more apt to be remarked and utilised in plants under culture, it is a very open question indeed whether culture acts as an inducement, since plants in a perfectly wild state are well known to sport as widely and

parental type to all intents and purposes thousands and thousands of times exactly; then suddenly it becomes inspired with a new idea (there is no other way of putting the fact), and it starts constructing on a different plan, plays a fresh tune, as it were, in the great harmony of Nature, and in due time the "sport" is established. In point of fact we have here the introduction of a new species, subject only to the proviso that, left alone in the struggle for existence, it can not only maintain its individual existence, but also extend it, retaining its integrity of type and holding its own among its near relatives.

Variation in these marked lines appears to be of the indiscriminate type; no evidence has been put forward indicating that they form a sympathetic response to environmental stimuli, and are therefore better fitted to their surroundings than their unresponsive neighbours and relatives. Hence, doubtless, the large majority belong to the "unfit," and eventually fail; it would, however, be strange indeed were there no exceptions, and the belief is becoming more and more established



MAPLES IN AUTUMN: A SCENE IN JAPAN.

that these sports have played a material part in the formation of species in the past, and are still performing a like rôle in the present.

CHAS. T. DRURY, F.L.S., V.M.H.

MISCELLANEOUS.

NATURAL AND ARTIFICIAL WOODLAND GARDENING.

IT may seem odd that the term artificial should be applied in any way to what is described popularly as wild gardening. But that the introduction into the garden surroundings of any proper garden of plants, not indigenous or native to the woods, is to some extent artificial, there can be no doubt. It is all the more so when, very mistakenly, garden methods of planting are introduced, so far as to create masses here and there of diverse, and especially of bulbous, things in a way Nature never taught. The best of wild gardening is that in which Nature's methods are instinctively followed, and all that is of the garden or artificial is omitted. Recently I have seen two very striking examples of what I can but term the artificial and the natural in woodland gardening. In the one beneath a fine grove of lofty Beech trees, bulbous and tuberous plants were seen in blocks in indeed almost parterre fashion. Scarlet and yellow Tulips, white and yellow Daffodils, blue and white Grape Hyacinths, blue, scarlet, and white Anemones, all very beautiful in their places, were here in patchwork blocks, and not at all as if Nature had any hand in the planting.

The natural scene I found in one of those singularly lovely places for which the garden county of Surrey is famous. It was at Castle Hill, Bletchingley, the residence of Mr. H. Partridge, a place where Nature in the ground formation and singularly steep declivities, as well as noble elevations, has done so much, and the gardener has done his share well also. But on the eastern side of the mansion on grassy glades, beneath leafy trees, and outside the kept grounds were large expanses of Lady Smocks, Primroses, white Anemones, Violets, and many other wild flowers, literally by

the acre, all so very beautiful. Here and there were a few of the commoner Daffodils, not in clumps revealing the gardener's hand, but just singly, as though the bulbs had accidentally fallen from the trees, and, becoming buried, had grown, and thus become natural products. Running to a long distance, under lofty trees and on the western side of the mansion, is a striking steep hillside or declivity some 150 yards down. Here there is very little underwood growth, but on May 9, when I saw it, the whole surface of the ground, running into many acres, was one mass of Blue Bells. Of all the displays of these wild flowers I had ever seen this was the finest and the most beautiful. Neither words nor pictures could convey at all adequately the wondrous beauty of this woodland garden of flowers, and especially when passing heavy clouds at times threw shadows, and their absence at other times revealed the scene lit up with sunlight. A narrow path cut through this steep yet glorious woodland bank, some halfway down it, enabled the spectator to look up and see the millions of pale Bluebells facing him on the one hand and the darker blue backs of the flowers below. With the Scillas were great numbers of other wild flowers, amongst which stood out the red-flowered Campion, *Lychnis vespertina*, and particularly fine and effective, though not common, the yellow blind Nettle, and the pretty and common Stitchwort, also Primroses, Anemones, and with a green carpet of the Ground Elder. It is such natural effects as these that should be imitated.

A. D.

EDINBURGH GARDENERS' COMPETITION—JUDGES' REPORT.

It will be remembered that the Royal Caledonian Horticultural Society recently awarded prizes for the best plans, drawn by under gardeners, showing how to lay out 20 acres of ground as flower and vegetable gardens and pleasure grounds. Mr. P. Murray Thompson, secretary of the society, has kindly sent us a copy of the prize plan and the report (given below) of the judges upon the plans submitted to them.

"The sketch plan submitted for competition shows a piece of ground only 20 acres in extent, with somewhat steep gradients, and the mansion

placed at a height of 60 feet above the road and about 57 feet above the stream immediately to the south of the house. The details are such as to make competitors carefully consider what are the possibilities of the ground. Of necessity the carriage drive to the house must be steep, and only one competitor has laid out his plan in such a way as to get an easier gradient than one in ten. The stream and old quarry are capable of effective treatment, and the stables should be screened off from the mansion or house. The character of the ground is such that the best treatment seems to be a 'natural' one. With these points in view we have carefully considered the twenty-one plans submitted to us, and are pleased to report that in our opinion the competition has been a most successful one, and that all who have entered for it, whether winning a prize or not, must have derived considerable benefit. Several of the plans which have not gained places show good features. Considering the size of the estate most of the plans show gardens too large, with costly subsidiary works out of all proportion to the area, but the principal stumbling-block with most competitors seems to have been the gradients. We congratulate the society upon having started so useful a scheme and on the success which has attended this first competition.

"For first place we have chosen the plan bearing the motto 'Tipperary Boy.' The carriage drive is formed effectively, though rather steep from the stream to the house. The ground is simply treated in such a manner that it might easily be further developed. The flower beds to the south and west of the house are weak. The west wall from the road to the stream should have been screened with planting. The linking of the walks is somewhat faulty, and a necessary and important path is wanting for service between the kitchen gardens and house, while the competitor makes a good feature of the quarry; it is strange that he almost entirely neglects to utilise the ground near the stream for a fine walk. This, however, is better than showing needless paths.

"For second place we have chosen the plan bearing the motto 'Labor Omnia Vincit.' The draughtsmanship is a little faulty, but we have not given much consideration to that in any of the plans. The drive from the stream to the house is rather too steep. The kitchen garden taken as a whole is rather large. The serpentine walk between the lodge and the 'lake' is weak, as are also the 'butterfly' shrubberies on the north side of the drive from the stream to the house. The flower garden to the north of that is over-elaborated and is unnecessary. The flower garden provided at the east end of the kitchen garden is a good feature, well thought out, and of sufficient size for the property.

"For third place we have chosen the plan bearing the motto 'Carnation.' This would have taken a higher place had it not been too elaborate, and consequently very expensive to lay out. The drive is well planned, and is of the easiest gradient submitted to us. The ground along the course of the stream is well developed. The quarry is well treated, except for the position of taking in the water from the stream. The kitchen garden is too large, and, taking the contour of the property, is not well placed. This applies also to the tennis lawn. The tennis lawn and bowling green should be together, and easily accessible from the house. The straight boundary of the belt of trees along the road is weak. The back walk along the west side of the property is unnecessary. The subsidiary road for carting from the avenue to the stables is not well placed. The flower garden as placed would be much shaded by the house during a great part of the day. The connexions between some walks are faulty. The screen of trees between the house and stables should have been nearer the stables.

"The plans marked 'Omnia Vincit Labor' and

'A Rolling Stone Gathers no Moss,' contain various good features, and may in our opinion be commended.

"(Signed) J. W. McHATTIE, Superintendent of Public Parks, Edinburgh, and JAS. WHITTON, Superintendent of Public Parks, Glasgow."

JAPANESE MAPLES.

THE Japanese Maple is so highly thought of in this country that the illustrations of it in Japan may interest readers of THE GARDEN:—The Maples differ greatly. Some are tall, others dwarf, and there is as much distinction in the leaf colouring and formation as in their dimensions. The Japanese Maple is *Acer palmatum*, of which there are several varieties. *Aureum*, *sanguineum*, and *septom-lobum* are three handsome varieties, the second of those named in particular. This has leaves of deepest crimson. These may be planted in a small garden, as they do not grow very large, and are quite hardy, enjoying fairly light soil and open positions. A tree for the park or pleasure grounds is the variety of Norway Maple (*A. platanoides*) called *Schwedleri*. It is tall, vigorous, and has very beautiful leaves, which pass to quite a bronzy red with age. The Silver Maple (*A. dasycarpum*), *A. circinatum*, the leaves quite crimson in autumn, the Sugar Maple (*A. saccharinum*), very showy in autumn, the Red Maple (*A. rubrum*), and the well-known *A. Negundo* and its variegated variety may be named. It is a mistake to use *A. Negundo* variegata too freely, as it always has a spotty effect.

GARDENING OF THE WEEK.

INDOOR GARDEN.

HERBACEOUS CALCEOLARIAS.

SEED may be sown now in well drained pots or pans in a fairly light rich porous soil. Fill the seed pans within half an inch of the rim, press the compost firmly, making the surface perfectly even, and sprinkle fine silver sand over it. Water the soil with a fine rose, sow the seed thinly, and sift over it a mere dusting of fine soil. The seed is so very small that it will germinate without any covering at all. Place the pans in a moist, shady frame where the temperature is even, and cover the pans with a sheet of glass to check evaporation. The glass must be dried with a cloth every morning. In about eight or nine days the seedlings will be above the soil, and they must be gradually given more air until finally the glass is removed.

BOUVARDIAS

that have been hardened off may now be planted out of doors; choose a sunny position. It is necessary that the plants should receive plenty of water during the period of active growth or they will become a prey to red spider. Overhead syringings until well established are very desirable in hot weather, are a check to red spider, and will encourage growth. Bouvardias may be planted out permanently in prepared beds, in heated pits, or frames. The lights may be removed during summer after the plants are established.

CAMELLIAS

that have completed their growth may be stood in the open for the wood to ripen and the flower-buds to become plump. Choose a somewhat shaded and sheltered situation. These plants should be freely syringed morning and afternoon, and water should be given liberally at the roots. The white scale sometimes makes its appearance, and this should be sponged off with warm water and soft soap.

ZONAL PELARGONIUMS

may be placed in their flowering pots. For spring-struck plants 5-inch or 6-inch pots will be

large enough. A suitable compost for this potting is one of a good fibrous loam, with an addition of wood ashes, bone-meal, and coarse silver sand. Pot firmly and afford efficient drainage. Place the plants in an open, sunny position out of doors on boards or a bed of coal ashes. Timely attention must be given to watering, stopping, and removing all flower-buds. Show, decorative, and fancy Pelargoniums that have finished flowering should be placed out of doors in full sun that the wood may be ripened.

FUCHSIAS

that are coming into flower should be kept well supplied with liquid manure and soot water; later plants may be given larger pots, using a good rich soil. The plants should be placed outside in a sheltered spot, for high winds soon play havoc with the young and tender growths.

JOHN FLEMING.

Wexham Park Gardens, Slough.

THE FRUIT GARDEN.

LATE VINERIES.

THESE will during this month require much attention. As soon as the berries are sufficiently advanced to make possible a selection of the best bunches a final thinning of the latter should be made. In the case of free setting varieties this may be done almost immediately after the flowering season is over, but undue haste in this matter with Muscats, Alnwick Seedling, and other uncertain setters might end in disappointment. It is always better to under-crop than over-crop Vines. The cultivator must, however, judge for himself. He will know what he can command in the way of stimulants, &c., and the weight of fruit that they should be able to mature perfectly. An experienced thinner of the berries readily discerns which to leave, and the distance, according to variety, that they should be apart in order to form a perfect bunch, and selects the most prominent and largest berries, with thick footstalks, to form an outline to the bunch, at the same time avoid crowding the centre. In consequence of the short footstalks of some kinds, Lady Downe's Seedling for instance, they must be thinned both early and freely, otherwise they will soon become so closely crowded that it will not be possible to attend to them without spoiling the bloom. Such varieties as Muscat of Alexandria and Alicante should have their large shoulders carefully looped to the laterals before being thinned, and sufficient berries should be left upon them to keep them compact. Attend to keeping the Vines properly supplied with nourishing liquids, to the stopping of their sublaterals, and particularly guard against excessive artificial heat.

EARLY HAMBURGH VINES.

The atmosphere of the house containing ripe fruit should be moderately dry. Give a free circulation of air in favourable weather, avoiding cold draughts, and expelling excessive moisture by means of a little artificial warmth. The colour and plump-

ness of the berries will be more satisfactory if hot sunshine is subdued by light shadings, the border kept moist and mulched with dry litter.

THE ORCHARD HOUSE.

Pot trees that have been allowed to come on as it were naturally should have their crops thinned. Top-dress them slightly with rich short stable manure and loam in equal parts, and subsequently these operations should be repeated at intervals as soon as the dressings become well filled with roots. This will greatly assist them to grow and swell their fruit, thus making liquid manures almost or quite unnecessary. Water must, however, be freely given, and it will in hot weather be often needed twice a day to keep the trees from suffering from dryness at the roots. Dryness results in inferior fruit, and will cause that of Cherries, Plums, and Peaches to drop whilst stoning. The trees of the latter must be freely syringed, both in the morning and evening, to prevent redspider from getting a foothold, but if Pears, Cherries, or Apricots—which resent much syringing and a close moist atmosphere—are associated with them they should be kept at one end of the house and treated accordingly. The temperature must be kept moderately low until the fruit has stoned and commenced its second swelling, when its progress may be safely hastened by closing the house early, so that the temperature reaches about 85° from solar heat. Atmospheric moisture must at such times be given freely.

PINE-APPLES.

Successional plants, which may suitably consist of Smooth Cayenne, Charlotte Rothschild, and Black Jamaica, should be kept slightly drier at the roots and maintain a drier atmosphere. They will then show fruit early next month, and an early winter supply should be forthcoming. Once the fruit shows give a good soaking of weak guano water. Young plants of the above should be shifted into their fruiting pots before the roots become pot-bound—a condition that would cause



A JAPANESE MAPLE. (From a photograph taken in Japan.)

premature fruiting — and be incited to make vigorous progress by being subjected to early closing and moist atmospheric conditions. Guard against the foliage being unduly browned by lightly shading it from powerful sunshine. There need be no apprehension of the plants becoming drawn at this season of the year if the houses are properly ventilated. Suckers of these varieties to provide for future demands should be potted as they become fit. T. COOMBER.

The Hendre Gardens, Monmouth.

THE FLOWER GARDEN.

LAWNS.

THESE, if well kept, are always pleasing and attractive features in a flower garden during summer, though if they are patchy and uncared for the effect is the reverse. Newly-made lawns require care now both as to mowing and watering, and weeds that invariably spring up with the grass seed should be carefully removed. Watering should be given in the evening and in such quantities that frequent applications will be unnecessary. One good soaking a week is now far more beneficial than daily sprinkles. Dustings of some good chemical manure during rainy weather stimulate the young roots and give a healthy appearance to the grass. The mowing of newly-made lawns should not be rashly undertaken, as the roots if unduly exposed to the hot rays of the sun are liable to be burnt up, whilst on the other hand allowing the grass to become long and then mowing it close gives a very bad effect for a long time, and makes the prospect of a soft velvety lawn a distant one.

A little fresh gravel on walks and the use of the roller after a shower of rain will do much good, but this should not be done until all the traffic caused by the bedding out is finished.

ANNUALS.

The different groups and clumps of annuals will now require thinning out, and care should be taken not to neglect this important work, as it is the one thing essential to success in growing these beautiful flowers. Every seedling should be allowed sufficient room to grow and develop properly. To make a display in late autumn many annuals may now be sown, as these are flowers one cannot have too many of.

ROSES.

Now that the blooming season approaches Roses require special attention. A good soaking of manure water would help the expanding buds immensely. Care must be taken to keep the buds free from grubs, which are so disastrous to them. They may easily be seen curled up in the leaf, and can easily be destroyed by squeezing the latter. If black fly is troublesome syringe with Quassia Extract. All suckers must be removed or they will soon weaken the plants.

HUGH A. PETTIGREW.

Castle Gardens, St. Fagans.

KITCHEN GARDEN.

MUSHROOMS.

As ordinary Mushroom houses will be of little use for producing good crops at this season, it will be far better to make up good beds either in the open in cool positions, or in caves, or cellars, and clear out the houses proper, making any necessary repairs, and holding everything in readiness for the autumn. Every particle of the old material should be taken care of, as it forms one of the most valuable items a gardener can have at all seasons of the year, and it is equally useful in nearly every department. Beds which are in bearing in the open should be examined frequently; remove the long litter and renew with fresh from the stables every now and then. This will add new life to beds which have been in bearing some time. Syringe twice daily, thoroughly soak the beds with tepid water when dry, and to any becoming exhausted apply farmyard liquid manure of moderate strength.

CUCUMBERS.

These may be grown easily during the next three months either in houses, pits, or frames with the aid of little fire heat, but much attention will be needed to keep the plants healthy and in good bearing condition. Overcropping should in all cases be strictly guarded against or the plants will become exhausted and the produce poor. The plants should be looked over at least three times a week in whatever structure they are growing. Remove with a

knife as much of the old wood as can be conveniently spared to induce as much young growth as possible; this should be stopped often. Badly shaped fruit should be taken off as soon as formed, also old decaying leaves. Add a small top-dressing of turfy loam and well decayed manure about every fortnight or three weeks. No fruits other than those required for seed should be left on the plants after they are fit for cutting, as these will keep fresh for some time by standing the ends in a little water in a cool place, changing the water often. Syringe twice daily, and water thoroughly whenever the plants require it, applying stimulants once a week when in full bearing. Fumigate with XL All immediately any signs of aphid or thrip appear, for once the growths become badly infested it is very difficult to eradicate, especially so in pits or frames. Make another good sowing of seed singly in small pots. These fruits will come in well for early autumn. Outside ridge varieties which were planted early under hand-lights will now do without this covering. Peg the growths evenly about the ridges.

GENERAL WORK.

Nearly every plot of ground in the kitchen garden ought now to be properly cropped, and as fast as one thing is over another should take its place. The hoe should be kept in constant use, both for destroying the weeds and assisting the growth of the various crops. Few people realise the large amount of good frequent hoeings do on all kinds of land. Take advantage of showery weather for applying soot and artificial manures in equal proportions. Give too little rather than too much—a little and often being the best course to pursue. Onions, Carrots, Beet, Parsnips, Celery, Cauliflowers, Beans of sorts, Peas, and the like will all greatly benefit by this when in active growth. Strong-growing Peas, in addition to being staked, will often require to be further supported by having lines of strong string stretched along each side, and all Broad Beans should be stopped immediately sufficient flowers are open, supported and kept in an upright position by driving in stakes at intervals. Use two lines of strong string. Salads of sorts should be frequently sown, that there may be no danger of a break in the supply. Mustard and Cress, Radishes, Chervil, and Onions for drawing young are best sown in cool parts of the garden. E. BECKETT.

Aldenham House Gardens, Elstree, Herts.

FLOWERS AT THE BATH AND WEST OF ENGLAND SHOW.

THE central feature of the excellent floral exhibition at the Plymouth show of the Bath and West of England Society was a really artistic erection, for which Mr. F. W. Meyer, landscape gardener to Messrs. R. Veitch and Son, of Exeter, was responsible. It was between 50 feet and 60 feet in length, about 20 feet deep, and 25 feet high, and included a rock garden with waterfall and a Water Lily pond filled with Marliac's choice Water Lilies. From a boulder of rock was suspended the Crimson Rambler and other climbing Roses. Among the plants were Rhododendrons, intermixed with Bamboos and Japanese Maples, around the pond were Irises and other water-loving plants, Fortin's new Lily of the Valley in excellent condition, tall spikes of Eremurus, the scarlet Metrosideros, Heaths, Azaleas, branches of Embotrium coccineum, and a handsome group of the yellow Richardia, backed by Clematises (among which was C. Nellie Moser). The whole was a model of good taste, and came in for much admiration from the crowds who visited the exhibition. Messrs. John Waterer and Sons, of Bagshot, showed some very fine Rhododendrons, including Cynthia (rose), Pink Pearl, Everestianum (mauve), and Frederick Waterer. Messrs. Curtis, Sanford and Co., of the Devon Rosary, Torquay, showed Tulips, Pelargoniums, Carnations, Pansies, and Coleus. In addition to the rockery mentioned above, Messrs. Veitch showed a nice collection of Sarracenias, Dionaea muscipula, and other insectivorous plants. Mr. Henry Hodge, of St. Austell, showed Begonias,



PART VIEW OF A ROCK AND WATER GARDEN.

(Exhibited by Messrs. Robert Veitch and Son, Exeter, at the recent Bath and West of England Show at Plymouth.)

including a striped double. Messrs. Cooling and Sons, of Bath, made a speciality of Gladioli and Gesner Tulips, with some very fine Clematises. Mr. Godfrey's (of Exmouth) collection included Palms, Cannas, Anemones, Irises, Lilacs, and Oriental Poppies. Lord Auckland sent some fine plants, including *Hemantus* and *Gloxinias*, and J. C. Williams, Esq., some very pretty *Tropæolums*, *Cypripediums*, and fine foliaged plants. Mr. F. Hooper, of Widcombe Hill, Bath, exhibited Pansies, Callas, and Fuchsias. The flower exhibition at the Bath and West of England show not being competitive, the chief object in view is to get a good effect; it is never so large as to be wearisome, and care is taken to get a varied collection of plants. By this means it is always a delightful show to visit, and every year it seems to be improving in quality.

FROST AND FRUIT CROPS.

PROMISE OF A GREAT APPLE YEAR.

SOME weeks have now passed since that fatal morning about the middle of May when the thermometer registered 10° below freezing point, and in the meantime opportunities have been afforded of noting the difference that the one night made in the calculations of fruit growers. Until then prospects could not well have been better. Fears were even entertained that crops would prove too heavy to be profitable. We hear another story now, and though there have been exaggerated reports about wholesale failures, things are not so bad as all that, and there will be fruit when the time arrives for picking. In Kent the frost was general, though it varied in severity and in effect. Amongst vegetables early Potatoes suffered the most, and though they have now made fresh growth this is weak and the crops will be late and small. Two fruits that seemed to come off the best were

PEARS AND APPLES.

I have seen instances where the former suffered in low lying districts, but generally speaking the blooms were well set, and the fruits now swelling promise well for the crop. Whereas the earliness of the bloom saved the Pears, the lateness of the Apple was doubtless the salvation of this important crop. Except in the case of a few early varieties, the Apple blossoms were not expanded on the night in question, and since then things have been favourable for a good set. Situation, of course, made some difference, and I recently heard a grower deploring the fact that his Apple blossom was ruined, but his orchards are situated in the valley close to a river, and this caught the full rigour of the frost. Provided all things go well this should prove to be a great year for Apples, and opportunities will probably be afforded for experimentalists to prove how surplus fruit can be profitably disposed of. There need be no fears, I think, about the best samples of high-class varieties.

At the time when the orchards were white with flowers growers discussed the prospects of another great

PLUM

year. This was not done in a cheerful spirit altogether, as no one knows better than Kentish growers what a glut of Plums means. A common variety in the country is the Kentish Bush Plum, a round purple fruit of fair quality. In moderate seasons these Plums pay well, but the variety is a great cropper, and in years of plenty their market value reaches the minimum, and the price of better class varieties is also reduced. From observations I have been able to make I find that the frost has had its effect on the Plums, and though there may be sufficient left to make a

crop on many trees, I do not think there is any fear now about a glut. I know instances where every fruit turned black and fell, and in such cases the growers are deploring their losses. To those who escaped the damage, the frost may prove something of a blessing, as the results of that one night's cold are sure to tell upon the prices later on. It made one feel sad to observe some of the early

CHERRY

trees after the frost. The day before every branch was studded with swelling fruits, and the effects of the frost were not observed at first. Then the shrivelling and the blackening told the fatal story, and they came down like a shower. This was unfortunate, as early Cherries are usually a paying crop. With Cherries, however, as with other fruits, situation has made all the difference. During the last few days I have noticed orchards occupying high situations where the trees are bearing good crops, so that the man in the street may hope to get his Amber Hearts and Bigarreaus later on, in spite of what his daily paper may have told him to the contrary, though he will doubtless have to pay more for them than he did last year. One phase of the Cherry season has already begun, and small fruits of foreign importations were fairly plentiful in the markets before the end of May, but in quality these will bear no comparison with the large luscious fruits from Kentish orchards.

To give an example of the effect the frost had on

BUSH FRUITS

in certain districts, I had occasion to go into a large plantation where Gooseberries and Black Currants are extensively grown. Sufficient time had elapsed for the full extent of the damage to be seen, and the sight was a pitiable one. The ground beneath the bushes was strewn with Gooseberries and Currants, and very few were left on the branches above. According to the estimation of the grower that one night's frost has made a difference of a couple of hundred pounds to him, which is a serious item in these days. Half a mile away, but in a higher position, the frost did not seem to have done much damage. The thinning of the Gooseberries will probably put money into the pockets of those who have not suffered much, as the returns to the growers are only small when these fruits are plentiful. With Black Currants it is different, as the dreaded bud mite has ruined so many plantations that a glut of Black Currants is almost impossible, and, with the additional damage done by the frost, prices will probably rule high this season. Probably

STRAWBERRY

growers were hit the hardest by the frost. The first blooms were fully expanded, and it is from these that the finest and earliest fruits are obtained. A few days ago I was in the plantation of a grower who has made some fortunate hits in the past by the earliness of his Royal Sovereigns. He looked like doing the same again this year, but the frost upset his calculations. When I saw them the early blooms were all black in the centre, and all hopes of Strawberries at 1s. per lb. are gone for this year. This is not a solitary instance, and the effect will be felt on the Strawberry supply about Coronation time. Fortunately, late varieties and succession blooms have had nothing to check them. Happily, the weather has been more favourable lately. Warm welcome rain has fallen, followed by genial sunshine, and the fruit that safely passed through the trying ordeal of May has a chance now to come to perfection. G. H. H.

NURSERY GARDENS.

MESSRS. SUTTON AND SONS' CALCEOLARIAS AND GLOXINIAS.

NO tender plants perhaps produce flowers more brilliant and more richly coloured than do *Gloxinias* and *Calceolarias*, so indispensable during early summer in the embellishment of the conservatory and warm house. One may now see these in a high state of perfection, both as regards the culture of the plants and the varieties of the flowers, in Messrs. Sutton's nursery at Reading. Mr. MacDonald, who for considerably more than a generation has practised the art of plant growing in Messrs. Sutton's establishment, thinks

THE CALCEOLARIAS

have never before been so good as they are this year, which makes one regret that they were not exhibited at the recent Temple show, and one would indeed have very far to go in order to meet with plants more satisfactory in every way than those in the Reading nursery. Furnished with foliage which tells at once of their robust health, and bearing splendid bunches of flowers in all those remarkable shades of colour and variety of markings which give to the *Calceolaria* its charm and account for its popularity, Messrs. Sutton's plants make a striking picture. Beautiful as are those varieties which have flowers of colours almost indescribable, there is one named *Cloth of Gold* that is conspicuous amongst all others; its flowers are self-coloured, a rich clear yellow. We learned the interesting fact that this is the only *Calceolaria* in Messrs. Sutton's collection that can be relied upon to come really true from seed.

CALCEOLARIA CLOTH OF GOLD

is extensively represented in these nurseries; one may therefore conclude there is a large demand for it, and when one sees how striking and how richly coloured a variety it is this is not to be wondered at. Some flowers are already commencing to lose their beauty, and the reason is not far to seek. It is not that they are fading naturally on account of age, but they have been fertilised for the purpose of producing seed, and, as every gardener knows, nothing so quickly causes a flower to lose its beauty and its petals to fade and fall. Those that have not been touched by the operator's brush have quite a different appearance; they are as fresh and bright as when first they opened. A really lovely sight is made by those houses wherein are arranged

THE GLOXINIAS.

These flowers, unique in their delicate markings and colouring, have been greatly improved in recent years. Some there are that remind one of fine lace in the wonderful tracery on the petals, outlined in colours of the most delicate hues; others are boldly marked with rich masses of colour. There are "Coronation" flowers in red, white, and blue, and there are many more whose velvety petals are splashed, spotted, and marked in innumerable other ways as to make one wisely desist from attempting to describe them. The appearance of the *Gloxinia* is much added to by its handsome marbled leaves of various shades of green. In some varieties the marbling is very marked and quite a feature.

THE STAR CINERARIAS

are now making a brave show, and here again one meets with shades of colour and forms of flowers that one would think could not be improved upon. And yet it is one's invariable duty annually to chronicle improvements upon existing varieties. The true *Star Cineraria* is seen in excellent form in Messrs. Sutton's collection; we say the true *Star* advisedly, because one sees so many so-called *Star Cinerarias* that are not star-like at all, except in name. And when the star form is preserved with the lovely colours of the florists' *Cineraria*, one has a choice, elegant, and invaluable plant. Most of the brilliant and rich colours that one is accustomed to see in the flowers of the dwarf *Cinerarias*

appear to have been obtained in the Star Cinerarias, to judge from Messrs. Sutton's varieties, and the plants have lost nothing in elegance of habit.

TUBEROUS BEGONIAS

are now in full bloom, and the multitude of flowers includes many beautiful kinds amongst the single, double, fringed, and crested forms. We had the privilege of peeping into the seed room, where were many hundreds of thousands of *Primula* seeds; we should probably not be incorrect in substituting millions for hundreds of thousands. We noted too the seedling *Cyclamens* that even in small pots filled several houses, and, so soon as they shall have been transferred to larger pots, will evidently fill several more. The exhibition of the Royal Counties' Agricultural Society is being held at Reading this week, and we had an opportunity of noting the extensive floral decorations that Messrs. Sutton are providing around the Royal Pavilion and elsewhere in the exhibition grounds.

THE KITCHEN GARDEN.

OUTDOOR CUCUMBERS.

IF less labour were expended in the creation of new house or frame Cucumbers, and more were devoted to efforts to obtain really good outdoor varieties, greater gain to gardening would result. We have now fully fifty assumed distinct or diverse varieties of house Cucumbers in commerce, and others are being yearly added, although it is now most difficult to find in any of these material improvements on old ones. Some fifteen varieties were staged by diverse persons at the recent Temple show, all long, green, handsome, and good. Probably all are as prolific as Cucumbers well can be. But of outdoor varieties, apart from the old Gherkin, which is too small-fruited for ordinary use, there is nothing better than the well-known Ridge variety or a slightly improved form known variously as Stockwood, King of the Ridge, Long Ridge, &c. Is it not possible to secure, by crossing the best of the Ridge section with Telegraph or another free-growing frame variety, one that would do well outdoors in the summer? A. D.

CABBAGES "BOLTING."

EVIDENTLY Cabbages bolt off to flower in a somewhat erratic way in various places, as is evidenced by what your correspondent "G. C. N." has written. But my experience of Spring Cabbages this season is that "bolters" are remarkably few. I have seen Cabbages in a score of diverse gardens and places just recently, and in five counties where of necessity the conditions must greatly vary, and I think I have never seen fewer bolters. If there be 1 or 2 per cent., such proportion is not worthy of consideration. But I would like to give details of a trial of Cabbages in eighteen named varieties obtained from leading seedsmen: Sutton and Sons, Veitch and Sons, Carter and Co., Cannell and Sons, Dobbie and Co., Johnson and Co., and Webb and Sons. The trial may now be seen by anyone on the Crown allotments at Englefield Green, Berks. There were of each variety two sowings, the first made on July 24, the second on August 16; the plot on which they are planted is exposed, and the soil a deep retentive sand, not rich. The first planting of one-half the plot was made on September 25, the second on October 16. Thus in each case the plants were put out just two months from the sowing of the seed. The reasons for making the two sowings were—first, to test effect on bolting; second, on earliness to heart in. There are two rows of each variety right across the plot, thus making thirty-six in all, and forty plants in each row, or a total of 1,440, a big number, which, equally divided, gives 720 to each planting. Now as to bolters. Out of this big number there were in the first planting eleven only, and of the second planting

not one. That is a point, although a very small one, in favour of the second or later sowing and planting. With respect to early hearing the merit lies with the early planting certainly, but judging from the nature of growth shown on May 10 I expect the second planting will give finer, though later, heads. A. DEAN.

VEGETABLES FOR EXHIBITION.

THE superb collection of seventy-two dishes of vegetables, which Mr. E. Beckett set up at the recent Temple show, served to illustrate in a most effective way the attractiveness of these products at exhibitions. Few objects attracted more attention at the show; few collections more thoroughly merited attention. It may be comparatively easy to set up big displays of flowering plants, or to go into nurseries and cut vast quantities of flowers wherewith to make a big bank of bloom, but only a master in the art of gardening could produce and show such a collection of vegetables as was the one from Aldenham House Gardens, and not everyone could arrange those products with such singularly pleasing effect. No wonder great numbers of visitors to the show, satiated with the masses of brilliant colour so plentifully furnished elsewhere, found great pleasure and relief in the vegetable collection. The presentation of this fine collection and the popularity which attached to it, plainly show the need there is for at least one meeting in the year at the Drill Hall for a vegetable display. If one big collection was so attractive how much more so would be many such, though for competition purposes necessarily smaller ones. Some twenty collections of a dozen dishes, as many of nine dishes, and again of six dishes with a dozen or more of single dishes would make at once a fine and a representative display. If the council of the Royal Horticultural Society would give a lead in the matter no doubt members of the seed trade would readily follow with offers of prizes, and thus at a trifling cost the Royal Horticultural Society might place before its thousands of Fellows an exhibition of vegetables that would include the finest quality the kingdom could produce, and be second to none of other similar shows in the whole world. A. DEAN.

BUTTERFLIES AND CATERPILLARS.

A COMMON sight in the kitchen garden during the warm days of June is that of numerous white butterflies flitting about in the sunshine. If their movements are watched it will be observed that they frequently settle on the Cabbages and other greens. In themselves they are harmless enough, and it would seem a pity to destroy them, but the prospect of caterpillar-ridden Cabbages makes it necessary that stringent measures should be taken, and the destruction of butterflies now will save a lot of damage later on. Some of the cottagers in my district hang up pieces of stone brimstone over their Cabbage beds to drive away the butterflies, but the riddled leaves beneath often afford proof that the remedy is not infallible.—G. H. H.

SOCIETIES.

COMMONS AND FOOTPATHS PRESERVATION SOCIETY.

HAINGALE FOREST AND LAMBOURNE COMMON.

WE have been asked to publish the following letter:—"You were good enough recently to give publicity to an appeal made by Mr. Edward North Buxton to the Corporation of the City of London for aid in carrying out a proposal for the extension of East London open spaces. It is hoped that the Corporation may be found willing to make a substantial response to the appeal, but in any event the realisation of the scheme will to a great extent depend upon the measure of support accorded to it by those who are in sympathy with the open space movement. The proposal is in the first place to acquire for the sum of £3,600 the rights of the Lords of the Manors in Lambourne Common over 312 acres of land, and thus to bring to a conclusion all questions as to the validity of certain old enclosures, and to secure from injury or destruction the beautiful and valuable timber for which the common is noted, and which is the undoubted property of the Lords of the Manors, Colonel Lockwood,

M.P., and Captain Ethelstone. In the second place it is proposed to add to this open space by the purchase of the whole of Fox Burrows Farm, containing 475 acres, formerly waste of Hainault Forest, enclosed by the Crown under the Hainault Forest Act of 1851, and let as farm lands. Bearing in view the object for which it is required, the Commissioners of Woods and Forests are willing to sell the freehold of the land.

It is estimated that the total cost will amount to at least £27,000, for which sum £50 acres will be secured with all the timber, an average of £31 an acre. As it is hoped to secure a sufficient sum to allow the arable land to be laid down in grass and sown with gorse and forest seeds, the estimate may be considerably exceeded. By way of comparison it may be pointed out that the purchase of the rights of the Lords of the Manors over Epping Forest involved an outlay of £240,000 for 5,542 acres, or over £43 an acre, although the illegality of all enclosures was successfully established. On the other hand, of the present purchase, 521 acres enjoy a parliamentary title. It is also interesting to note that in commemoration of the Diamond Jubilee of the late Queen Victoria, 166 acres of open spaces were purchased in Wandsworth, Highgate, Wood Green, Edmonton, and Tottenham. The cost of the five schemes amounted to £121,300, or £750 per acre. Now that the nation is about to celebrate another event of importance in the history of the country, may we express a hope that many persons who desire to see the Coronation remembered in some lasting manner may recognise the fitting character of open space memorials. The present scheme affords them an opportunity, which it is safe to say will never recur, of assisting in the acquisition of a wide tract of beautiful forest and other land upon the most favourable purchase terms ever offered to the Metropolis. The Commons and Footpaths Preservation Society has been consulted with reference to nearly all of the larger Metropolitan open space schemes, and from the experience it has had, as well as from its intimate knowledge of the whole of the facts in relation to the present proposal, it is able to warmly commend the scheme to the consideration of the public. The land occupies a most commanding position on the elevated ridge lying between the River Roding and the Thames Valley. A large proportion is well wooded, and it will shortly have a station within easy reach, and thus be accessible to all inhabitants of the metropolis, and particularly to the vast and expanding population of Ilford, Romford, and other great urban centres in the district. Not only is this the case, but the scheme proposes to add to the Metropolitan open spaces at the cheapest rate the largest area acquired for many years.

It is believed that the greater part of the sum required will be contributed by public authorities and private donors within the county of Essex. Indeed, Mr. E. N. Buxton has already received promises of about £3,500 from his personal friends, while the Ilford Urban District Council have made a grant of £4,000, and the other large urban authorities have the question under consideration. The balance needed, however, must come from those interested in the provision of open spaces, and we venture to appeal to your readers for aid in carrying out the proposal. Contributions may be forwarded to the secretary of the Commons and Footpaths Preservation Society, at 25, Victoria Street, Westminster; to the Lambourne Forest account at Prescott's Bank; or to Mr. Alfred Buxton, at 50, Cornhill, E.C., the treasurer of the fund. G. Shaw-Lefevre, chairman; E. N. Buxton, vice-president; Octavia Hill; Lawrence W. Chubb, secretary."

WOODBRIDGE HORTICULTURAL SOCIETY.

THE fifty-first annual show of this society will be held in the Woodbridge Abbey Grounds on Thursday, July 10. The schedule is a very representative one, including many classes for Roses, Carnations, pot plants, cut flowers, decorations, fruit, vegetables, &c. There are altogether 166 classes.

BRENTWOOD HORTICULTURAL SOCIETY.

ON Thursday, July 10, the annual show of this society will be held. One of the attractions of the schedule is a handsome silver challenge cup for the best exhibit of Roses; this, together with the many other good prizes, should induce a good competition. By kind permission of E. Murray Ind, Esq., the show will be held at Coombe Lodge.

HULL AND DISTRICT HORTICULTURAL SOCIETY.

THE second annual exhibition of this society is to take place on September 10 and 11, in the Artillery Barracks, Park Street, Hull. Excellent prizes are offered for a group of miscellaneous plants, collections of fruit, &c., and those given in the amateurs' classes are also unusually good.

IPSWICH AND EAST OF ENGLAND HORTICULTURAL SOCIETY.

WEDNESDAY, July 9, is the day fixed for the summer show of the above society, which will be held in the Upper Arboretum, Ipswich, and an unusually attractive prize list has been arranged. Roses, cut flowers, fruit, plants, &c., are all to be well represented.

RICHMOND HORTICULTURAL SOCIETY.

THE twenty-eighth annual flower show will be held in the Old Deer Park, Richmond, Surrey, on Wednesday, July 2. We notice that two splendid silver challenge cups are given for Roses and fruit respectively. That for Roses (value twenty guineas), the Gunnersbury Park Challenge Cup, is to be held by the first prize winner in the class for forty-eight Roses (distinct), three blooms of each, for one year. This cup is presented by Leopold de Rothschild, Esq. Mrs. Max Waechter's silver challenge cup (value twenty guineas) is to be held by the winner of the first prize in the class for a collection of fruit, not less than nine dishes (distinct).

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PRUNING HARDY SHRUBS

(Continued from page 389.)

CERCIS.—Requires no pruning, except such as may be necessary to make well-shaped plants, which should be done after flowering.

Chimonanthus.—The shoots of this should be shortened back after flowering, and if on a wall they should be spurred in.

Chimonanthus.—See Cercis.

Cistus.—Those which are hardy of this genus should be cut back each spring while in a young state; but when they have attained a flowering size no pruning is required. The cutting back of young plants induces a bushy habit, and also keeps them from weakening themselves by blooming and seeding.

Clematis.—The garden forms of this genus are divided into two sections, of which *C. Jackmani*, *C. lanuginosa*, *C. Viticella*, and *C. aromatica* (*C. cœrulea odorata*) are the types of those which flower on the young wood, and which require cutting back close to the old wood in the winter; while *C. florida*, *C. patens*, and *C. montana* are the types of those which flower on the ripened wood of the previous year, and merely require a thinning out of weakly or unnecessary growth. Of species other than those mentioned above *C. Flammula*, *C. paniculata*, and *C. Vitalba* flower on the young wood, and the remaining species are either herbaceous or flower on the old wood.

Clethra.—These practically require no pruning, but long shoots may be shortened and weakly ones cut away with advantage.

Colutea.—These make better plants and flower later if they are cut back every winter. *C. Istria* (a rare species) should not be cut down if flowers are desired.

Cornus.—The strong-growing shrubby *Cornus*, such as *C. alba*, *C. Anomum*, *C. Baileyi*, *C. pubescens*, and *C. stolonifera* require an annual thinning out, and those with brightly-coloured stems should be cut down every spring for their effect during the following winter. The remaining *Cornus* require little or no pruning.

Cotoneaster.—The large-growing species should be pruned in late summer, but only sufficiently to keep them within bounds; *C. Simonsi* requires cutting down annually while young to make it bushy; and the dwarf-growing kinds are best left alone.

Crataegus.—Keep the heads well thinned out to allow light and air to the centre of the tree. This should be done in late summer.

Cytisus.—These require very little pruning, with the exception of *C. nigricans* and *C. capitatus*, which flower on the young wood, and should be cut back annually. The other species and varieties make better plants if they are cut down each year while in a small state, but they should be left alone when they have attained flowering size.

Daboecia (the Irish Heath).—Cut away all old flower stems in early winter.

Daphne.—Requires no pruning.

Desmodium.—These flower on the young wood, and should be cut nearly to the ground-line every spring.

Deutzia.—The old wood should be kept cut out of these, but no shortening of young shoots should be attempted.

Elaeagnus.—These require an annual overhauling to keep them in good condition. This should be done in late summer, when the plants should be well thinned out and all useless growth cut clean away.

Erica.—See Calluna.

Escallonia.—These are usually cut back by frost, but if they escape *E. rubra* and *E. punctata* should have their long growths shortened back in spring, while the other hardy species need not be touched.

Erochorda.—These usually require no pruning, but if the plants are getting too large or unshapely they should be cut back immediately after flowering.

Fatsia (*Aralia Sieboldii*).—This is usually cut by frost, but it stands cutting back in spring, when new growth is soon made, which will flower late the following autumn.

Fothergilla.—Requires no pruning.

(To be continued.)

THE HORTICULTURAL CLUB.

As mentioned in THE GARDEN last week, a very pleasant reunion of this club took place on Tuesday evening, the 10th inst., at the Windsor Hotel, on the occasion of the usual monthly house dinner, the pleasure of which in this instance was greatly enhanced by Mr. H. Stevens, the well-known auctioneer, who, in addition to that vocation, has achieved one of the highest reputations as a skilful and artistic photographer. Floral photography was, of course, the chief item touched upon in the chatty address which he gave in lieu of a formal paper. He supplemented his remarks by an exhibit of numerous specimens of his skill, embracing, not only many superb photographs of Orchids, Lilies, Chrysanthemums, Roses, and other flowers associated with foliage plants, but also a number of animal groups, cats, dogs, and rabbits in a sort of happy family combination, which were undoubtedly unique in both style and execution. In the course of Mr. Stevens's observations, it transpired that none of his beautiful effects were due to really up-to-date lenses or new chemical combinations, as he adhered entirely to old-fashioned principles and apparatus. "How it was done" was, as usual, somewhat difficult to arrive at, but in the course of an interesting discussion, in which Mr. Shea, whose skill as a telephotographic artist is well recognised, it transpired that the main ingredient was "brains," Mr. Stevens admitting this with all modesty, and asserting that the highest class work could only be arrived at by the individual who makes the special pursuit an absolute hobby. Half-and-half dilettante application was useless for such ends, and he stated that many of his most successful reproductions were the outcome of hours of particular study of the subject itself and its

grouping, and the fine adjustment, by means of movable screens, of the light effects. One important point, too, was strict attention to the shadow effects in focussing; these were studied much more than the high lights, the latter subsequently claiming attention in their turn by skilful subduing in the developing process. From the specimen photographs themselves, however, it was obvious that the "brain" factor of success had many phases, which were involved in natural posing and skilful arrangement of both foreground and background, plus many other points which the merely dilettante amateur is apt to ignore, with consequent loss of that superb effect evidenced in these high-class productions. A very hearty vote of thanks was given at the conclusion of the discussion, and the members of the club were greatly gratified by the announcement of the chairman, Mr. Harry Veitch, that Mr. Stevens had promised to give a lantern exhibition of more of his work at one of the winter meetings of the club. Some thirty odd members and guests attended, and it is very gratifying to know that the membership of this pleasant club is rapidly increasing.

EDITOR'S TABLE.

APPLE NORTHERN GREENING (OLD).

The Rev. Denis Knox, Virginia Rectory, Virginia, Ireland, sends some excellent specimens of this useful Apple, with the following note: "I send you a specimen of Northern Greening (Old) Apple to see how well the fruits keep with me. About three months ago there was some controversy in THE GARDEN about the relative keeping of this variety and the 'new' one, but the last-mentioned never keeps beyond the middle of January. I am sorry I have not the address of the gardener who upheld the 'new.' The fruits were good in every way." Perhaps the correspondent referred to by Mr. Denis Knox will send his address. Mr. Denis Knox sent the fruits on June 5.

RHODODENDRONS FROM MESSRS. VEITCH.

An interesting and beautiful series of Rhododendrons comes from Messrs. Veitch; the trusses were cut in the Coombe Wood Nursery. The varieties sent were Martin Hope Sutton, Baroness Schræder, Mrs. Mendel, a soft and pretty mauve colouring; the beautiful double Fastuosum fl.-pl., Sapho, Sylph, Florence, Mrs. John Clutton, James H. Agnew, the cerise-coloured John Walter, Miss Jekyll, pink colouring and dark spot; George Paul, Lady Grey Egerton, Marie Stuart, Concessum, Purity, white, as suggested by the name; Mrs. Samuel Simpson, Snowflake, Bluebell, Ayrshire, Maxwell, T. Masters, Mrs. R. S. Holford, Lady Clementine Walsh, Sir Humphrey de Trafford, Mrs. Ingersoll, H. W. Sargent, Marchioness of Lansdown, Kate Waterer, Picturatum, Amphion, James Macintosh, F. B. Hayes, Fred Waterer, Mrs. Tom Agnew, Mrs. John Pryce Lade, Doncaster, Mrs. John Penn, Mrs. William Agnew, St. Simon, Mme. Carvalho, Sigismund Rucker, The Queen, and Michael Waterer.

CELSIA CRETICA (THE MOTH MULLEIN).

I am sending a plant of *Celsia cretica* or Moth Mullein that grew in the crevice of an old wall

6 feet above ground. I think this well worthy of a place amongst the choicest herbaceous plants. It is one of the easiest things to grow, reproducing itself from seed freely, and is equally at home on old walls, high banks, or good borders, but of course grows much larger in good soil, and flowers freely fully six months out of the twelve. A coloured plate of this *Celsia* was published in *THE GARDEN* about twenty years ago, from flowering spikes I then sent, but does not appear to be so well known as it deserves to be.—W. SANGWIN, *Trelissick, Truro*.

[A beautiful plant. The spike sent showed how well it succeeds in an old wall. It is welcome almost anywhere, in wall as well as in the border. The plant Mr. Sangwin sent was 4½ feet high.]

FABIANA IMBRICATA.

I think this solanaceous plant one of the most beautiful of tender shrubs. Here it grows into large bushes 10 feet to 12 feet high; it grows out in the Isle of Wight and South Devon, but will not stand the winters farther north.—W. S.

[Beautiful sprays from Mr. Sangwin. It is quite a southern plant.]

NOTES OF THE WEEK.

FORTHCOMING EVENTS.

June 24.—Royal Horticultural Society's Rose conference, Holland House (two days); Lee and District Horticultural Show (two days); Oxford Commemoration Show.

June 28.—Windsor and Eton Rose Show; Maidstone Rose Show.

June 30.—Canterbury Rose Show.

July 1.—Southampton Rose Show (two days); Meeting of the National Amateur Gardeners' Association.

July 2.—National Rose Society's Show in the Temple Gardens; Croydon Rose Show; Hanley Horticultural Fête; Hereford and West of England Rose Show; Newcastle-on-Tyne Summer Show (three days); Richmond Horticultural Show; Worshipful Company of Gardeners' dinner, 7.30, Prince's Restaurant.

July 3.—Colchester, Sidcup, and Norwich Rose Shows.

The Coronation Rose Show.—By the kindness of the Right Hon. the Earl of Ilchester, and to benefit the National Horticultural Charities, viz., the Gardeners' Royal Benevolent Institution (founded 1838) and the Royal Gardeners' Orphan Fund (founded 1887), visitors to the Coronation Rose Show on Tuesday next will be enabled to inspect the beautiful gardens and pleasure grounds at Holland House between 1 and 7 p.m. on payment of not less than one shilling.

How to get to Holland House.—Visitors to the Royal Horticultural Society's Rose conference may perhaps care to be reminded of the various ways of reaching Holland House. The entrance to the exhibition will be by the gates in High Street, Kensington, and the station of the same name (on the Metropolitan and District Railways) is the nearest one. Addison Road, Earl's Court, and Notting Hill (Central London Electric Railway) Stations are also convenient.

Royal Horticultural Society.—Remarkable increase.—At a general meeting of the Royal Horticultural Society, held on Tuesday, June 10, 164 new Fellows were elected, amongst them being the Countess Roberts, the Countess of Selborne, the Countess of Donoughmore, the Countess Lewenhaupt, Viscountess Galway, Lady Ardilaun, Lady Lechmere, Lady Jane Trefusis, Lady Gwendoline Cecil, Lady Fitzroy, Lady Jekyll, Sir Theophilus Peel, Bart., Sir G. L. Molesworth, and the Dowager Lady Southampton, making a total of 752 elected since the beginning of the present year.

The General Flower Show, Rose Show, and Conference.—The Royal Horticultural Society's great exhibition of Roses and other flowers will be held at Holland House, Kensington—by kind permission of the Earl of Ilchester—on June 24 and 25. This meeting will

take the place of one of the ordinary fortnightly shows at the Drill Hall, but will in all essentials be conducted on the same lines as the annual shows at the Temple. All classes of plants, flowers, and fruits may be exhibited, but no Roses may be included in any miscellaneous or mixed group. Roses can only be shown under the schedule. Single plants for certificate may be entered at the secretary's tent on the morning of the 24th before 10.30 a.m. An official catalogue of this show will be issued and distributed gratis among the visitors. It will comprise a short historical sketch of the Royal Horticultural Society, particulars as to the proposed new horticultural hall, schedule of Rose prizes, the names and addresses of all the exhibitors of other plants, &c., with the nature of their exhibits, together with the programme of music to be performed each day by the band of His Majesty's Royal Horse Guards (Blues). The judges will meet at the secretary's tent at 10.30 a.m. on June 24, at which hour punctually the tents will be cleared of all the exhibitors and their assistants. The fruit, floral, and Orchid committees will assemble at the secretary's tent at 11 o'clock sharp. The conference on "Roses and their Cultivation" will be held at 2.30 p.m., and will be open to all Fellows and visitors. The exhibition will be open to Fellows (showing their tickets) and to others showing Fellows transferable tickets at 12.30 p.m. on Tuesday, closing at 8 p.m., and at 9.30 a.m. on Wednesday, closing at 6 p.m. The public will be admitted by payment at 2 p.m. on the 24th and at 9.30 a.m. on the 25th. The only entrance to the show will be by the great iron gates in Kensington High Street, and the only exit will be by a gate leading into Melbury Road, where carriages may be ordered to wait.

National Amateur Gardeners' Association.—One of the chief events of the year in connexion with this popular association is the annual conversazione and exhibition. This function is fixed to take place on Tuesday, July 1 next, at Winchester House, Old Broad Street, London, E.C. The conversazione is to be held in the Great Hall, and no doubt, as on previous occasions, the meeting will be a great success. On this occasion Dr. H. N. Collier, with his Red Admiral Pierrot troupe, will provide the musical entertainment, and the members are looking forward to an enjoyable evening. The reception takes place at 7 o'clock p.m., and at a subsequent period, when the judges have finished their labours, the exhibition, made up entirely of the produce of the members' gardens, will be open for inspection. Various trophies and championships are to be competed for on this occasion, and if the weather will only improve in time there should be an interesting display. The honorary secretary of the association is Mr. F. Finch, 117, Embleton Road, Vicars Hill, Lewisham, S.E., and he will be pleased to give any information respecting the aims and objects of this association.—C.

Hampstead Heath Protection Society.—At a meeting of the committee of the Hampstead Heath Protection Society, held at Hampstead on the 13th ult., it was decided to continue the opposition to any tunnelling under the Heath, on the ground that, notwithstanding any provisions to the contrary which may be inserted in the Bill, the construction of an underground railway under the Heath must necessarily lead, sooner or later, to communications with the surface, either for a station or for purposes of ventilation, which must inevitably injure the Heath; and, even apart from these considerations, on account of the possible danger to the springs of water and to the vegetation of the Heath.

Sweet Peas late in flowering.—The continued cold and wet weather has checked the progress of these plants, and at the present time (June 14) the chances of securing an early display are very remote. In order that an earlier display than usual might be developed a sowing was made in pots at the beginning of February last in a cool greenhouse. The seeds soon germinated, and from the time the seedlings appeared the pots were arranged on a shelf near to the glass roof. By these means sturdy growth was encouraged, and the plants

needed little in the way of hardening off subsequently in the cold frames. The same plants were planted out in clumps in early April last, and notwithstanding careful hardening off before planting out of doors, the severe frosts and cold and cutting winds were almost too much for them. The rains which fell at a later date fortunately saved them and they soon began to grow. For the past fortnight, however, there has been little advance, but no doubt the plants will quickly come into bloom with more sunshine. In other years the plants have flowered quite early in June.—D. B. C.

Bletia hyacinthina.—This was one of the floral gems at the Temple show, a good example in flower occurring in Messrs. Jackman's group from Woking. The colour is unusual, too, among the terrestrial Orchids, and, in truth, the warm rosy purple is not too abundant even in the rarer epiphytes. In any case it is welcome, and always admired when seen. The elegant raceme of flowers is about 2 feet high. The plant is nearly or quite hardy, yet sufficiently rare to be worthy of much attention, and certainly a little protection in winter is well repaid.—E. JENKINS.

Hardy flowers and pigmy trees at Regent's Park.—In the corridor of the large conservatory at the Botanic Gardens, Regent's Park, Messrs. Barr and Sons, of King Street, Covent Garden, have a most interesting and attractive exhibition of the dwarf Japanese trees that have recently become so popular, and also of hardy flowers in great variety. As one enters the corridor from the conservatory, the one side which is completely filled with flowers and pigmy trees presents a very pretty sight, and upon closer examination the items of this seasonable display prove individually to be well worthy of note. A group of Pyrethrums in many lovely colours introduces one to the exhibition, and is closely followed by several banks of Irises that are lovely masses of delicate form and colouring. There are varieties of *I. pallida*, *I. squalens*, and *I. germanica*, that are alone well worth a visit, and they are accompanied by a small group of *Iris sibirica* varieties. These flowers are extremely pretty, and their long somewhat slender stems and elegant leaves give an additional charm. The lovely and easily grown *Aquilegias* are represented, and one sees what a number of beautiful flowers may be had from the unnamed seedling forms. Several new Tree Lupines are particularly attractive, the flowers are bi-coloured, white and varying shades of blue chiefly, and Butterfly, white and rich blue, and *Admiral*, white and a lighter blue, are two of the best. The Yellow Lupine Somerset is noticeable, and Princess Ida, primrose; Emperor, violet-blue; and Leander, purple, are other good ones. A remarkably pretty plant, both in foliage and flowers, is *Thalictrum aquilegifolium purpureum*, and one that all should have who grow the type. The Oriental Poppies make a brave and brilliant show, and the group of *Pæonies* includes some lovely varieties, notably Lord Roberts, white; Fairy, salmon rose; Fiancé, white, all Tree *Pæonies*; and of the Chinese varieties the best undoubtedly is Otto Fröbel, a rich scarlet single flower. Another plant well worthy of note is *Anemone alpina sulphurea*, not new by any means, but rarely met with. The colour of its flowers is a rich sulphur-yellow. Lilliums were not omitted from the display, and perhaps the best of them was *L. monadelphum szovitzianum* with flowers of citron-yellow. These and many other hardy flowers, together with a most varied collection of Japanese dwarf trees, which comprise several perfect specimens, go to provide an exhibition of more than usual interest.

The Victoria Regia at Regent's Park.—Mr. Elderbert F. Hawes, head gardener at the Royal Botanic Gardens, Regent's Park, N.W., writes: "The Victoria Regia, growing in the Regent's Park Botanic Gardens, opened its first bloom on Saturday last, and another will be open at the end of the present week. Notwithstanding the absence of bright sunlight, the plant is blooming nearly a month earlier than last year, and now has several leaves 5 feet 6 inches in diameter."

Ravenscourt Park, Hammer-smith.—The rockery of this, one of the best kept of the smaller parks under the control of the London County Council, is just now very gay. *Lithospermum prostratum* makes quite a display with a mass of brilliant blue flowers. *Phlox stellaria*, a charming little plant and one of the best, is very pleasing with its large lilac-coloured flowers. *Silene maritima* fl.-pl., which bears double blooms as large as the old double white Pink, was not quite in full beauty when these notes were made. White *Saxifragas*, pink and mauve *Aubrietias*, the well-known *Primula japonica*, and *Aquilegias* are other plants worth mentioning. Trees and shrubs, too, in various parts of the Park at this period of the year add to the general interest. The air is redolent of the fragrant perfume of the Lilac, Acacia, and the Hawthorn. The Horse Chestnuts are later than usual in flowering this year, and of these there are some grand examples. A fine specimen of the Golden Laburnum near the Public Library has been exceptionally good. *Weigela rosea* is quite worth a note, as are the Guelder Roses, *Magnolias*, and a magnificent *Catalpa* with its Orchid-like flowers. —Quo.

Gentiana verna.—How beautiful was the mass of shining brilliant blue of this plant as shown by the Messrs. Barr at the Temple show! Curiously enough—and it is unusual—the flowers remained fully open under the heavy canvas. Their early expansion needs some liberal help from the sun's warmth, but having reached the maturity stage appear to remain more or less fully developed. Those who can permanently grow and flower this brilliant gem have one of the best of all alpine. —E. J.

Lemoinei's hybrid Deutzias.—I hope that your note on these plants in THE GARDEN of May 31 will do something towards the introduction of the new Deutzias to a larger number of gardens than as yet possess them. I have several of them here. Among them I much like that named *D. gracilis carminea*, which is a charming thing, either when in bud or when in full flower. The buds may fairly be described as carmine, and the open flowers are bright and pleasing with their rose interiors against the carmine of the outside. It is, M. Lemoinei informs us, derived from *D. gracilis* and *D. discolor purpurascens*. The habit of growth is rather arching when the flowers are on the plant, though more erect at other times. As a garden plant *D. g. Boule de Neige* also promises to be a great gain, as its habit is erect and the rather creamy white flowers form a pretty head of open blooms. This is from *D. parviflora* and *D. gracilis*, the parents of *D. Lemoinei*, one of the first of M. Lemoinei's productions in hybridising these pretty shrubs. *D. g. campanulata*, *D. g. kalmiflora*, and *D. g. venusta* are all acquisitions as well. —S. ARNOTT.

Hippeastrums at the Temple show.—While the different garden forms of *Hippeastrum*, or *Amaryllis* as they are so generally called, continue to gain in popularity each year, so that in many places they alone form an annual feature, the display is generally considered to be much past its best, if not actually over, by the end of April, yet at a corresponding period in May Mr. Chapman at Westonbirt has for two consecutive seasons at the Temple show put up a fine and representative group, the flowers composing which are as bright and fresh as if the season were a month or six weeks earlier. The large, massive, and in most cases brightly coloured flowers, borne on stout, sturdy stems, form not the least interesting item of a noteworthy exhibition. When one compares the flowers of the present day with the native species from whence they have originally sprung, the great improvements that can be effected by judicious fertilisation and selection are then very apparent. The credit of this must in the first place be given to Messrs. Veitch, whose annual show is a really brilliant feature, but of late the lead has been followed by many others, notably at Kew, where in No. 4 greenhouse there was for some time a grand display. The increased interest shown in this class of bulbous plants is doubtless to some extent due to the fact that it has now

been well demonstrated that seedlings can be flowered in a quicker time than was at one time considered necessary. —T.

The fruit prospects.—The fruit prospects in Gloucestershire and North Wales offer a very marked contrast. In both places the severe weather lately experienced has damaged various crops to no small extent. Strawberries have suffered more in the former than in Wales, especially where the position is very bleak. This means a great pecuniary loss to the cultivator who depends upon the Strawberry crop. Cherries are more satisfactory, if anything, in Gloucestershire. Pears have not suffered to any great extent in either place, because the fruit was set before the severe weather was experienced. Gooseberries are not too prolific anywhere this year. This may be accounted for by the trees having borne a heavy crop last year. The Currant crop will be a good one if the plants are not crippled later on by caterpillars. Apples are very satisfactory. This crop may possibly make up for the other deficiencies. Peaches are very abundant in Wales, Apricots being also a good crop. Nectarines have not set so well as usual; this is due probably to the naturally tender qualities of the tree. Figs outside are very promising, a good quantity of foliage and fruit being in evidence. Plums are fair on the average, but not equal to last year. —JOHN DENMAN, *Stroud, Gloucestershire*.

The Snowdrop Windflower.—*Anemone sylvestris* is lovely, as your note says (page 375), where it will grow. It grew with me in profusion for years on the London clay, but here, on the sand, I have found it always dwindles away, whatever soil or position I have given it. —J. R. D., *Reigate*.

The Strawberry crop.—Whilst much of the earliest of the Strawberry bloom was destroyed by frost, thus checking by several days the early production of ripe fruit, yet so far as my own observation has gone there seems to be little reason to anticipate a short fruit crop on that ground, for bloom is particularly abundant and fine, and before now a great quantity of it has set fruit. That the ensuing crop will owe much to the heavy rains that have so plentifully fallen there can be no doubt, for it is long since Strawberries have had such summer soakings as they have this year. But if these rains continue to fall after the ripening time has set in, then, having so much helped to make the fruit crop, they may ruin it. Those who can raise their fruit well from the ground, rather than letting it lie on a saturated bed of straw litter, will come off best. Even with the fine bloom seen everywhere, present appearances are not hopeful. Dryness and sunshine are badly needed to ensure good sweet fruit. —A. D.

Zonal Pelargonium Snowdrop.—A better representative of the white flowered sorts it would be very difficult to find, and as seen at Ryecliff Nursery a few days ago superb plants of remarkably sturdy growth were carrying a splendid crop of handsome trusses of bloom. Not only were the trusses very full, but the individual pips were strikingly large and handsome, and, what is of importance also, their substance was all that one could desire. This plant cannot be regarded as a shy bloomer, as the batch of very strongly-grown specimens was flowering quite freely. —D. B.

A new method of growing Watercress.—A quiet walk recently round the pleasant and well-kept Thames-side garden of Mr. John T. Thornycroft, at Chiswick, showed how well garden space can be made use of. Mr. F. Mears, the energetic gardener, placed some soil in the gutters of the plant houses, the seed was sown in the usual way, and a good crop of Cress has been the result. Moisture, which is necessary to successful culture, has been well supplied by the copious rains of late. —Quo.

Holland House.—Next week illustrations will be given of this beautiful house and garden, the residence of the Earl of Ilchester, and, as this number is the last of the half volume, it will include the index and dedication, this being to Mr. Bennett-Poë. The Rose conference will be reported as fully as possible, but, owing to the

public holidays in connexion with the Coronation, THE GARDEN must go to press considerably earlier than usual.

Notes from Baden-Baden.—Perhaps the most showy among early flowering Asters is *A. subcaeruleus* from the Himalayas; the numerous ray florets are of a bright lilac, and the orange disc has a touch of scarlet; the large flowers look very bright above the deep green foliage. The quaint large flesh-coloured flowers of *Silene Hookeri* attract attention (fig. *Bot. Mag.*), and *Dianthus callizonus* is a worthy companion. The numerous large flowers of the latter are on stalks only 1 inch to 2 inches high, and of a deep rose colour. *Primula Stuartii* is also flowering; it wants moisture and absolute shade in summer and a dry sunny position during winter. *Meconopsis paniculata* shows dozens of big sulphur yellow flowers and buds; it is a noble plant, but of difficult cultivation. A splendid variety of *Delphinium cashmirianum* is much admired; this is flowering not in a corymbose, but in a paniculate manner; the branches bear numerous bright flowers, and thus the plant forms a large pyramid—one sheet of showy blue. Among *Lathyrus* I may mention *L. Mulkak*, a perennial hardy species from Central Asia; it is in the way of *L. grandiflorus*, but bears more flowers, which are deeper in colour and fragrant. —MAX LEICHTEN.

A valuable Brussels Sprout, May's Northaw Prize.—There are some excellent types of Brussels Sprouts, some too large for private gardens, others, such as Northaw Prize, being well worth more than passing notice, as not only is it a close firm Sprout, but of the best quality. For years I grew several varieties of Sprouts to test them for keeping purposes and quality alone, and the one noted above was so superior that we have grown it in quantity ever since. It is a splendid variety for gardens of limited size, as the plants make a compact growth, being closely packed with small solid bullet-like sprouts. This variety, though not new, is not so much known as it deserves to be. Only last season I saw large quantities of Sprouts being grown; the variety is known in the trade as Imported Seed, and poor they were in comparison to the Sprouts sent out from our own seed growers. At one time I know Imported Seed was much liked, but such is not the case now. Varieties like the above are superior, the yield is much greater, and the plant far better, being true to name; if the seed is sown early and the plants well treated they give a good return to the grower. —G. WYTHES.

Viola pedata and p. bicolor.—The commoner form or type of the above seems to be the later one to flower. Too much cannot be written about these pretty Violets. The colours of the type vary from French grey to warm and delicate shades of violet. The bicolored form has a larger and fuller flower, flatter, and with the two upper petals of a deep velvety purple, having the appearance of a Pansy. Both are profuse bloomers, and readily lend themselves to pot treatment. We grow them successfully in equal parts of peat, sand, and loam. They should be in half shade, and the roots continually kept moist. These two Violets would form beautiful subjects for naturalisation. *Viola pedata* is sometimes said to be of biennial duration only, but this must be an error, as we have repeatedly flowered the same plants year after year. These Violets, I must say, are extremely valuable both for their long flowering periods and for the lasting properties of the individual flowers. A patch of about a dozen plants of one variety would last in bloom for about eight weeks at least; and a patch made up of both varieties much longer. —J. WOOD.

Two new bedding zonal Pelargoniums.—Although the zonal Pelargoniums are not so freely used for bedding out as was the case at one time, there is still a keen demand in certain quarters for plants specially suited for this purpose. The well-known and popular *H. Jacoby* has all along been regarded as an invaluable bedding zonal, and as the two new sorts are sports from that excellent variety they are, therefore, invested with a special interest. The curious feature in connexion with the plants of Edward VII. is that

the habit is very similar to that of West Brighton Gem, only perhaps an improvement on that variety. As will readily be appreciated the plants have a dwarf, compact habit, having light-coloured, in fact almost white, flower-stalks and leaf-stems. The colour of the flowers may be described as rich crimson-lake. The second sport is being distributed with the first-named by Mr. H. J. Jones, and is named Prince of Wales. In this case the flowers in colour are exactly similar to those of H. Jacoby, and the foliage is irregularly edged with creamy white. It is a distinct gain to the variegated foliage kinds, and should have a good future.—C.

Spiraea arguta.—This is, perhaps, the most deserving of praise of all the shrubby Spiræas. Of a most graceful and yet neat habit, it is not too vigorous in growth, and is delightful in the choice shrubbery or border. The foliage is not thick, thus allowing other plants to grow underneath it. For this reason it may be planted to advantage on overhanging rockwork or in a conspicuous position in the low border, though it is of too delicate a nature to plant in the common shrubbery with the coarser things such as Laurels, Rhododendrons, &c. A patch of such pure white as this shrub presents when in flower is very acceptable, even when fruit trees and sheets of Iberis are in full bloom. Its height is from 3 feet to 4 feet.—J. Wood, *Kirkstall, near Leeds.*

Iris lacustris.—This minute and interesting Iris is quite rare in cultivation. The height of a flowering stem is 3 inches to 4 inches as grown here. The colour one would describe as bluish lilac and gamboge. One of its good points is that when grown in a fairly dry sandy soil facing south it may be had in bloom three times in the year. Like most of the rhizomatous Irises, it should be planted with the rhizome showing above ground to ensure a good amount of flower. A well-grown clump about 1 foot in diameter is a pretty picture when in bloom. I cannot say why it is not cultivated more, otherwise than by the evident fact that it is not well known, as it is really most easy to grow and increases quickly.—J. Wood, *Kirkstall, near Leeds.*

THE FLOWER GARDEN.

ONCOCYCLUS IRISES — A TEST RECORD.

TO make any fair estimate of experiments that have been interrupted by death is always sad and somewhat difficult, and such a task has fallen to the lot of the present writer, who is only too well aware that it can be but very inadequately carried out by any other pen than that of the originator. Readers of *THE GARDEN* will recall the enthusiasm with which the late Rev. Henry Ewbank, of St. John's, Ryde, Isle of Wight, wrote from time to time of his experiences with the beautiful but rather intractable race of *Oncocyclis* Irises, and the very interesting paper on their cultivation which was reproduced in these pages no longer ago than in January of the present year from a recent issue of the *Journal of the Royal Horticultural Society*. It was there mentioned that in conjunction with M. Hoog, the representative of M. C. G. van Tubergen, jun., of Haarlem, he was about to institute a series of experiments, of which "the real purport was that of finding out if these particular plants are influenced or not by the soil in which they are planted." Analysis of the soil in which they naturally grow had revealed the presence of a considerable proportion of lime, and from this and other ascertained facts, Mr. Ewbank himself, after a liberal trial of lime in the form of bone-meal in the compost in which his *Oncocyclis* Irises were planted, was strongly inclined to believe that without doing away

with other and ordinary precautions in their culture therein lay the crucial secret of success.

As far as can be gathered without actual dates, of which there are, apparently, no accurate records, the plants in the four older frames have been treated for some four or more years past on what Sir Michael Foster has called the "covering-up" system; and have been grown in a compost to which a generous addition of bone-meal has more recently still been made. Former visitors to Mr. Ewbank's interesting garden will remember these concrete frames, which, by his own measurements, are "12 feet long, 3 feet or 3½ feet wide, and have a depth of 1½ feet or 2 feet, above a foot or more of drainage, over which inverted sods have been put," and which contain representatives of almost every known species of Cushion Iris, as well as many of the sturdier race classed under the name of *Regelia*. During the last week in May, when the writer saw them, many of the latter—such as *I. Korolkowi* and its varieties, *I. K. venosa*, *I. K. violacea*, *I. Leichtlini*, and others—were in strong and beautiful flower, fully bearing out the experience of growers in general that these and their like always do well. Of the true *Oncocyclis* Irises fewer have flowered this season than last year, owing perhaps to the cold and uncertain spring which has made itself felt even in the genial climate of the Isle of Wight, but many of the clumps gave promise of bloom later on. Fine specimens, however, of *I. iberica* and of Van Houtte's variety *I. i. insignis*, and the newer yellow-flowered *I. urmiensis*, lately introduced by M. C. G. van Tubergen, jun., Haarlem, were individually in perfection; *I. Gatesi*, *I. Sari*, and *I. lupina* were in strong bud, while the two forms of *I. susiana*—*I. s. major* and *I. s. atropurpurea*—had just closed what had been most finished flowers. The most serious gaps in the ranks have occurred with *I. susiana*, *I. Lorteti*, *I. atrofusca*, and *I. paradoxa*. It is a little singular that the typical form of *I. susiana*, which is the oldest known in our English gardens, and, comparatively speaking, an acclimated species, should have almost entirely disappeared from the frames.

The real experiment, however, was initiated in a large new frame in which, with M. Hoog's co-operation, eight species of *Oncocyclis* Iris were planted in four sections in as many different composts. A melancholy interest attaches to this experiment, inasmuch as the rhizomes were planted in this frame under

Mr. Ewbank's own superintendence on the day of his death. Since that time they have been carefully attended to by the gardener who has been for some years in Mr. Ewbank's employ, and who perfectly understood his plans and his wishes. The rhizomes of these eight species were treated on the contrary system to those occupying the four older frames, having been taken up from the open ground in July, 1901. They were then spread out upon a greenhouse shelf to ripen. The difficulty about the "taking up" system is this, that at no time do these Cushion Irises appear to be absolutely dormant when they are in health, with regard to the long, thong-like roots which they send down from their rhizomes. It so happened that after the particular Irises in question had been lifted and placed in their summer quarters on the greenhouse shelf, a sudden burst of intense heat and sunshine set in, and for several days they were subjected to it without notice. The rapid shrivelling of the thongs and scorching of the rhizomes, so soon as it was discovered, gave great anxiety both to Mr. Ewbank and his gardener, who feared that the transition had been too quick, and means were taken to make the drying off more gradual. Possibly the mischief was already done, and the failure and disappearance of a good many of the rhizomes planted in the experimental frame may be attributable to this cause. The soil test cannot therefore be said to be conclusive, but as this in any case could scarcely be decided by one year's trial, it is hoped that another season of cultivation on the same lines will give more definite results. In the meantime the subjoined table may be of some suggestiveness to growers of this unique section of a most beautiful race of plants which we may hope some day to see growing in our gardens with more freedom than at present, when their wants are more thoroughly understood. Comparison of the results of the two methods of treatment, so far as they have been carried out in these frames, tends to corroborate in every particular the opinion recorded by Sir M. Foster that for our English climate, with its alternations of temperature in early spring, the "covering-up" plan will prove the most reliable and satisfactory. Reference should not be omitted to the very fine species (or possibly variety) named *Iris Ard Akluk*, which opened its flowers in the test-frame on May 27. It appears to be a much more robust form than most others, and may probably be of more recent introduction.

	Loam and cow manure.	Loam, bone-meal, and 1lb. of magnesite.	Loam and bone-meal only.	Loam with large proportion of lime rubble.
<i>Iris lupina</i> ..	Six plants; four of them strong, one weak, one dead.	Eight plants; four doing fairly, but not increasing, two sickly, two dead.	Four plants; two strong, one of them with four good growths, two weak.	Six plants; two strong and increasing, two fairly good, two rhizomes dormant, but may start yet.
<i>I. Ard Akluk</i> ..	Two plants only; good with three or four growths to each, both flowering strongly.	.. .. .	.. .. .	.. .. .
<i>I. paradoxa</i> ..	One plant, healthy two growths.	.. .. .	All rhizomes decayed.	All rhizomes decayed.
<i>I. urmiensis</i> ..	All rhizomes decayed.	Three plants; one with six growths, no flowers, two weak, one rhizome sound, but not started.	Two plants only, not in good condition.	One healthy plant with three growths, the rest decayed.
<i>I. atro-purpurea</i>	Two plants, very weak.	Three plants; one strong, one fairly good, one very weak.	.. .. .	.. .. .
<i>I. Burmanni</i> ..	Two plants, weak.	One plant fairly strong, two dead.	Three nice plants increasing, one with seven growths, no flowers.	.. .. .
<i>I. iberica</i> ..	Six plants; two small but healthy, two rather stronger, two very weak. Some rhizomes sound, but either only just starting or still dormant.	Five plants living out of nine or ten, four fairly strong, one small but going to flower.	Three plants left, all healthy; one has flowered, most of the other rhizomes have decayed, but one or two are still plump and may start yet.	Only one good plant out of the three rows; one just starting, and several others, though dormant, are likely to grow.
<i>I. Mariei</i> ..	.. .. .	.. .. .	.. .. .	One plant only living, weak.

N.B.—Dots indicate that the rhizomes have entirely disappeared or were never planted in the row.

FOREIGN NOTES.

AN ARBOR DAY FOR INDIA.

WE are pleased to learn that Mr. C. H. Mounsey, Collector of Coimbatore, has come forward with a scheme for celebrating the Coronation and the Coronation anniversaries in future in a general, useful, and lasting way, and that is by planting trees.

Mr. C. H. Mounsey suggests that every household, if not every man, should select that day on which to plant a tree, and as such anniversary comes round it should be celebrated in a similar way.

The form these plantations should take ought to be topes, village avenues, and shade spots round village wells, &c. He says that his suggestion is in accordance with the Hindu *Shastras*—that one of the three essential things that man must do is to plant a tree—and the present is an opportunity of fulfilling that obligation. "Plant a tree, dig a well, and go to heaven" is an Oriental aphorism, and we commend Mr. Mounsey's suggestion for serious consideration. Other countries have their "arbor day," why should not India?—*Indian Gardening and Planting*.

A FEW JUNE-FLOWERING "BULBS."

The spring-flowering bulbs are over. They were mostly Tulips and old-fashioned Daffodils—in public places—for it really seems that contracting planters know little of anything else. A search through the private gardens in many places gives but little more of variety.

There are a number of pretty plants for June flowering in the middle States or in some cases a little later further north. To produce a telling effect they should be grouped together singly or in intersection. The English Yellow Iris *Pseud-acorus* is disposed to naturalise on the edges of streams where I write, and would have become abundant long ago if allowed, but so soon as a yellow flower becomes noticeable it is pulled up and taken to the gardens, where good sized clumps are often seen and flourish well in comparatively dry places. It is usually full of flowers some time during the first half of June. With a little care in selection some of the finer late Iris *germanica* may be had in company with it. *Sisyrinchium* in two or three forms will thrive in similar moist situations.

Gladiolus communis in both purple and white forms are quite hardy to the lower lakes, and form handsome groups. *Zephyranthes Atamasco* is a favourite plant in cottage gardens hereabouts. *Paradisica Liliastrium* will also flower during June; so will *Asphodelus Inteus*. The gigantic *Eremurus robustus* and several other species of comparatively recent introduction, as well as the older species, are mostly June flowering, white, yellow, brown, reddish or rosy, very showy plants, but little if at all grown, except possibly in a botanical collection or two. They are natives of the Caucasus, Afghanistan, and the greater part of Central Asia, and most likely all are hardy. *Anthericum Liliago* and *A. ramosum* are both June flowering and useful to mix with such lower growing pink flowering plants as the *Zephyranthes*. The blue flowered *Allium azureum* and the yellow flowered *A. Moly* should be tried in intersection or in ribbons; their scent is not commendable, but they may be depended upon for colour. *Scilla hispanica* may be had in flower in June, too, together with its pink and white varieties. Perhaps these are best known as *S. campaulata*.

Lilium tenuifolium, *L. Grayi*, and possibly some

A COLONY OF *AQUILEGIA STUARTI* AT KIRKSTALL.

of the varieties of *L. elegans*, &c., may be had in flower during June, but the great bulk of the Lilies are July flowering, especially northwards. The *Pontederias* will require aquatic treatment, but given that a mass of them is by no means to be despised in a garden. Both they and the *Tradescantias* will yield a good many surprises in the way of well marked varieties to the zealous collector.

The whole of these plants may be grouped in a small space with a mass of *Yucca angustifolia* and *Y. filamentosa* as a foil, and perhaps a few small dark leaved conifers. Such light coloured foliage as that of the *Funkias* (some of which also flower in June) cannot have a better setting.—J. MacP., in *Park and Cemetery* (Chicago).

NOTES ON HARDY PLANTS

AQUILEGIA STUARTI.

SEND you a photograph of a large patch of *Aquilegia Stuarti*. In this case the Columbine is growing against a wall facing almost south. It just misses the early morning sun, however, which is so detrimental to the leaves and flowers whilst they are still wet with dew. The soil is a good friable loam. The plant succeeds best as a biennial, seeds being sown as soon as ripe. Root divisions and old clumps do not flower so freely or so well as two year old seedlings. If not pampered and disturbed at its roots the plant is quite happy.

Kirkstall, near Leeds.

J. Wood.

PRIMULA ALLIONI.

SOME time ago I sent you a note on *P. Allioni*, in which I stated that the cultural directions as given by the distributors were all, or nearly all, wrong. I am again moved to call attention to this beautiful and interesting plant by the statement of Mr. Correvon that he has not seen it cultivated anywhere in England other than Warley Place, and there in pots and in a cold frame. This is an uncalled for luxury, as during last winter, when we had 28° of frost, growing in the open rock with no protection whatever, it not only came through well, but those in the most exposed positions did best. I have already expressed my opinion, backed by

actual experience, that we have been entirely misled as to the circumstances under which it was found wild. It is popularly supposed to resent damp in the foliage. Our best group was regularly watered overhead (no other way being possible owing to the position in which it was planted) during the dry weather last year, and was all the better for it. To those intending to add this bright gem to their collections I would say plant where you would a *Ramondia*, in the crevice of a rock, and during winter insert a sheet of glass or a flat stone on the top to ward off excessive moisture. In the summer keep it growing in dry weather by means of frequent waterings, and you will be rewarded by fine healthy rosettes and abundance of bright coloured flowers in early spring.

ALLIUM PEDEMONTANUM.

THIS, I think, is the most beautiful of the *Allium* family, the flowers a rich rose-pink in colour, and looking like bells of satin glinting in the sunlight; a good plant to grow if given proper conditions at the time of planting. A heavy calcareous soil, with a good sprinkling of grit, is an ideal compost in which to grow it. In poor, light, sandy, or peaty soil it flowers the first year, and then gradually dwindles away. In such a compost as recommended above it flowers and increases rapidly. The best position for growing and seeing it at its best is one facing south or west, high up and sloping forward on an open stone ledge, where you can look up and under the flowers and catch a glimpse of its bright colouring in the distance: it is essentially a rock garden plant, and one well worth growing.

Grey Towers.

A. F.

HARDY CYPRIPEDIUMS.

IT is a good sign of the frequent demand for these plants to see a representative gathering of them in all the leading hardy plant groups in a show like that at the Temple recently. Yet I think Messrs. Wallace carried off the palm for the pretty way they colonise these plants. It is instructive, and the plants are not hidden in a massed bank of the gayest flowers. Prettily grouped at intervals and issuing from their mossy bed, the entire lot told to advantage, and nearly all the kinds known to commerce were shown. There was a large display of the North American *C. spectabile* with its ruddy crimson pouch, bold

and well inflated always; *C. candidum*, with small flowers; *C. occidentale*, also with dainty blossoms; *C. acaule*, *C. pubescens*, *C. Calceolus*, and others being noted.

Most of these are of easy culture, and of those named *C. acaule*, the stemless Lady Slipper so-called is perhaps the most difficult to establish permanently. This may be due to its making so few fresh root fibres after planting, and of course it may be equally due to the crude manner of collecting the plants abroad, by which method the roots are torn away. It is to be hoped the plants so well shown will give a fresh impetus to the culture of this group generally. Writing concerning this matter recently in *THE GARDEN*, Mr. Mallett conveyed the idea that a substratum of chalk or lime was essential to the well-being of these plants. This, however, is not the fact. If we take such as *C. Calceolus*, *parviflorum*, and *pubescens*, all these may be finely grown in loam and leaf-mould, while the first-named is especially to be recommended for calcareous loam; indeed, I believe it was the late Mr. Selfe-Leonard who a year or two ago, having in mind the idea of re-naturalising this species in the British Isles, obtained a good supply of seed and offered it free to all whose gardens were in chalky districts so long as the supply lasted. In all loamy soils there is a certain percentage of lime, and the only species I have not grown well in loam is *C. spectabile*. The others, with *C. acaule*, I have grown in this district in sunken beds of loam and leaf soil, of the latter one-third, and adding to the bulk a considerable quantity of old mortar rubble. It may be due to many who would grow these pretty plants to know that peat and a boggy spot are not absolutely necessary. On the other hand, *C. spectabile* is happiest in wet peat, and if the root fibres are near the water so much the better. During growth all the kinds delight in plenty of moisture. E. J.

CLEMATIS MONTANA.

This Clematis is so beautiful when in full flower, as shown in the illustration, that we feel another representation will not weary our readers. Here it is seen growing in profusion and making a mantle of purest white. The effect of the mass of white against the trees in the background was very beautiful.

SOUTH AFRICAN FRUIT CULTURE.

(Continued from page 371.)

AN ENCOURAGING REPORT.

GRANTED fine selected fruit, proper packing, and transport in unimpaired condition, the Cape product, it is safe to say, will always command the best prices on the home markets, and the export industry will not alone be exceedingly lucrative, but should become exceedingly large. So far as we are at present concerned—that is, with the 1902 export—the report of the result of the first, or early season's, shipment of Peaches, Plums, and Apricots is favourable and encouraging. With the exception of the Plum consignment, *à la* Californian style, already alluded to, the first freights arrived in moderately good condition, and realised substantial prices on a London market that was not in a firm and satisfactory state, with a comparatively meagre demand and a capricious coterie of buyers. Some of the fruit was not picked quite soon enough, and reached the market rather over-ripe, but the Plums arrived in excellent condition, and the Peaches, which formed quite a novelty, were sold at a high price. The reports on the result of subsequent shipments have not yet been received, and are awaited with some degree of interest and expectancy. — *Cape Times*, February 24, 1902.

AIDS TO EXPORT.

The absolute insignificance of the exportation of agricultural products done by Cape Colony has long been a matter of grave discredit to the Colony, and of the greatest concern to those who have the interests of the Colony and of South Africa at heart. This discredit and concern arises, not so much from a mere desire to export as from a desire to see the agricultural resources of the country developed to their very utmost. Were there in Cape Colony a great urban population, which could use every iota of agricultural produce that could possibly be extracted from the

country, no one would wish to see the growth of an export trade in such produce. At present, however, Cape Colony could turn out agricultural produce sufficient for a hundred—nay, a thousand—times its inhabitants. Not only does it not do so, but it requires to import such produce from other lands; and hence the absence of export trade in those lines becomes at once a criterion of its agricultural backwardness. This backwardness is not made to appear the less by comparison with what is done in other British Colonies. Take, for instance, the State of Victoria in the Australian Commonwealth. There is in London an official who is styled the "Superintendent of exports for the Victorian Government and Representative of the Department of Agriculture, Victoria, Australia," and this gentleman has recently issued a little ten page pamphlet giving information concerning the products exported by the State of Victoria to Great Britain. If anything could bring the blush of shame to the collective face of our own Agricultural Department, this little pamphlet would be the thing. It points lessons to Cape Colony in two main directions, neither of which are altogether novel, and both of which have been many a time and oft drawn attention to in these columns.

In the first place, there is the mere fact that Victoria has in London a permanent official charged with the duty of furthering the agricultural interests of the State. In addition, at the offices of this official, there are "commercial show rooms," where the wool, grain, flour, wine, brandy, dried and canned fruits, fruit pulps, canned meats, honey, tobacco, fibres, and other products of Victoria are on exhibition, and where samples can be inspected. Where is the corresponding agent of the Cape Agricultural Department, and where are the corresponding show rooms for the exhibition of Cape products? The appointment of such an official in connexion with the Cape has been advocated, in different forms, again and again; and its advisability and great utility needs no elaborate demonstration. We drew attention

a week ago to the fact that Mr. W. Willcocks, C.M.G., the great Egyptian irrigation engineer, advocated very strongly the establishment of an agricultural bureau for South Africa on the lines of the Washington institution of that name. If such a bureau were established, an official in London—similar to the agent of the Victorian Agricultural Department—would necessarily be part of the scheme. An agricultural bureau for South Africa may, however, not be looked for all at once; but the appointment of an agricultural agent of the Cape Colony is a matter which could be settled in a moment or two. It cannot—bearing in mind the reputation for lavishness acquired by the Agricultural Department—be want of money which forbids the step; the only conclusion, therefore, that can be come to is that it is due to want of enterprise. And want of enterprise will assuredly prove as fatal to the business of a colony or state as to the business of a commercial house. The pamphlet we have referred to contains, however, materials of another sort for uneasy reflection by Cape Colonists. In its pages one is constantly coming across statements such as the following: "Trade in butter has been opened up with South Africa"; "Victorian flour is largely exported to South Africa";



A WREATHING OF CLEMATIS MONTANA. (From a photograph by Miss Willmott.)

"Victoria . . . exports large quantities of frozen meat to . . . South Africa"; "turkeys, geese, ducks, and fowls are also exported from Victoria to South Africa"; "an increasing export trade in canned and dried fruits to South Africa . . . is being developed"; and so on. The idea of South Africa, which includes Cape Colony, importing butter, flour, meat, and fruits from Victoria, or anywhere else, is lamentable in the extreme. South Africa for the purposes of such produce is blessed with an excellent climate; it has one of the best soils for agriculture in the world; and with irrigation, which we have insisted on so often, and which is perfectly possible and practicable, its advantages would be second to few countries in the world.

The Victorian Department of Agriculture offers us still another object-lesson. The great essential in an export trade, no matter of what commodity, is uniformity of quality. And in this essential what little export trade Cape Colony does is very deficient. Victoria, on the other hand, takes the utmost pains to ensure that all its exported agricultural products shall be only of the highest quality. Its butter, for instance, is all carefully inspected in the cold storage chambers in Melbourne by Government experts appointed for the purpose, and every box passed as of first quality receives the official stamp of the Department of Agriculture. More than that, on the arrival of the butter in London, a representative of the Agricultural Department makes an inspection of the shipments of butter during discharge, in order to see that the contract of shipment has been carried out, and that the butter is landed in thoroughly good and proper condition. This is a rational and business-like method of procedure, and a State which takes this trouble is bound to succeed to the full, and to find an eager market for its produce. Cape Colony will do well to take a lesson from Victoria before it is too late. It cannot be too often impressed that the ultimate salvation of South Africa rests on the proper development of its agricultural resources, though its immediate prosperity may depend upon the Rand Mines. And as Mr. Willcocks pointed out in regard to irrigation, the game is in Lord Milner's hands; if he—and it is hard to conceive him doing otherwise—appoints an agent in London to further the agricultural interests of his two Colonies, the Cape must follow suit, or get hopelessly left behind. Under the circumstances, perhaps the best thing to hope for is that Lord Milner will make such an appointment; it may be the only way of wakening up our own Agricultural Department. In the little pamphlet to which reference has been made, the following sentence occurs: "It may be safely stated that no other country in the world exercises more careful State supervision over the exportation of its agricultural products, or any Government taking greater interest in giving such assistance as will help to raise the standard of these." The absolute converse of these two statements would fit Cape Colony.—*Argus*, February 24, 1902.

(To be continued.)

ODONTOGLOSSUM CRISPUM LADY JANE.

THIS is one of the most beautiful varieties of *O. crispum* ever exhibited. It was shown by Mr. J. Wilson Potter, Park Hill Road, Croydon, at the Temple show, when a first-class certificate was awarded. The illustration represents the spike, but the flowers are almost twice the size of those represented; they are broad and

robust, the sepals and petals pure white, the former having a pinkish central band, and the petals are streaked on the upper half with reddish brown. It is a lovely flower.

ECONOMY.

In many small gardens economy is a watch-word, often to their grave disadvantage. Money that would be spent without the slightest hesitation in other domestic departments is grudged to the garden, and year after year the same old plants are divided and redivided and put back into the same soil, while the vegetable

arrangements go on in an unbroken routine based upon the fundamental principle of getting as much as possible out of the ground and putting as little as may be into it. The charming pen-picture of the lady going round in her goloshes to snip off the dead Roses, with which all novel readers are familiar, always transports me mentally into a garden where economy of this kind prevails. While she is performing the elegant office up comes the gardener, mildly and with hesitation, knowing his errand an unpopular one, to ask for seeds, for plants, and, worse than all, for manure. "You are always wanting something" is probably the sentiment, if not the utterance, of far too many garden owners in this unfortunate lady's position, as I feel persuaded it is her's. She will cut the blooms of the Roses, and of everything else to any extent, and she thinks she is doing some valuable garden work when she spends an hour removing dead heads, but beyond that any interest she takes in her garden is strictly economical. Real garden lovers do not need telling that such economy as this is not economy, in its true sense, at all. There are, however, some economies that the most ardent amateur gardeners—I do not like that word amateur, but I am forced to use it in expression of the garden owner who, more or less, and usually more, works with his own mind and hands, and puts his own personality into his beds and borders, as apart from the owner who is only a criticising perambulator and employer of labour—would find to their advantage. These are savings of time, which in a garden is often priceless, and of labour, which may be very valuable if it is

skilled and loving, and well worth concentration. Numbers of folk who do their own gardening make themselves work in the most reckless way. They thickly sow large quantities of seeds in shallow trays, never thinking of the worry that will ensue when, all in a rush, they have to be pricked out because they have exhausted their pittance of soil. They rear, or expect their gardener to rear, quantities of plants, of which Lettuces, Cabbages, and Marrows are good exemplars, from seed, instead of buying them ready to plant out, which is an infinite saving in small establishments; and they arrange summer

bedding without a thought as to the exigencies of water carrying that later on will have to be faced.

A good deal of labour, so far as flower seedlings are concerned, can be spared by sowing thinly in rather deep pans or boxes. Where there is plenty of soil and the seeds are not crowded, they will often go on quite comfortably in their original quarters until planting out time comes; this is especially the case with compact things like Pansies and Pyrethrums. The continual shifts of the prescribed and proper "bustle them along" process are all very well where a number of under gardeners



ODONTOGLOSSUM CRISPUM LADY JANE.

(Awarded a first-class certificate at the recent Temple show. About half size.)

have to be kept employed, but for one man or one owner with a whole garden on his hands they are apt to breed despair in their cumulation. A most fertile way of laying-up work is the inveterate habit some people have of taking endless cuttings and keeping them through the winter. In most small gardens quite as many cuttings as are needed could be bought in the spring for half the cost of fuel and labour through the winter, while bedding Geraniums and so on, as bought from nurserymen in spring, are generally vastly superior articles to the half-alive miseries that have fought through the months of depression in

some damp, stagnant greenhouse, half heated by an oil lamp or a grudging little boiler. Even where the conditions are somewhat better, and the aid of a "proper" gardener (as distinct from the anomalous hybrid of jobbing persuasion) is available, his time and trouble, and his master's coal and anticipations, are often wasted for the most ridiculously inadequate return, to keep alive a few hundreds of pink Ivy Geraniums, Crystal Palace Gems, and so forth, in order that the garden next year may look exactly the same as it does this summer. This is, again, the economical plan the lady of the goloshes follows, and no power will ever persuade her that it would not be extravagant to dig all her tender plants into the ground in November, let out her fire in her one greenhouse, fill it with choice Daffodils and pot Hyacinths, save fire and labour through the long winter, and in the spring buy, at the astonishingly low prices modern nurserymen seem able to live upon, a set of fresh new plants for such of her beds and borders as must be yearly remodelled. M. L. W.

VIEWS IN SIR THOMAS HANBURY'S GARDEN.

THE accompanying illustrations will recall to many of our readers pleasant hours spent in

the interesting garden of Sir Thomas Hanbury, La Mortola, which contains a comprehensive collection of rare and beautiful plants. It is a lovely garden, and, as our illustrations show, of deep botanical interest. We have several more illustrations of plants at La Mortola, showing how extensive is the collection grown in this famous garden.

THE INDOOR GARDEN.

BIGNONIAS.

MADE up almost entirely of shrubby climbers is the genus *Bignonia*, the majority of which are remarkable for their beautiful flowers. The habitats of this genus are in the warmer parts of South America, the southern United States, and the West Indies. An idea of the extent of the genus may be gathered when it is stated that upwards of 200 species are enumerated in the "Index Kewensis." Of this number, however, very few are in general cultivation, twenty species only being grown at Kew. The distinguishing marks of the genus are opposite simple or compound leaves, compound leaves usually having but two leaflets. The leaves are almost always terminated by tendrils, which enable the plants to cling to supports; flowers

terminal or axillary, sometimes in long racemes or panicles, at other times singly or in pairs, tubular in shape, with a spreading mouth, and, in the case of many of the introduced species, pretty and ornamental. In gardens considerable confusion exists in the nomenclature of this and several other genera, species of *Bignonia*, *Tecoma*, *Tabebuia*, *Anemopaegma*, *Colea*, and *Sterospermum* often being placed in the wrong genus. The species with which mistakes are often made are referred below to their respective genera.

With regard to cultivation the majority of the species require the protection of a stove or warm greenhouse, but one species, *B. capreolata*, is quite hardy on walls in the South of England, whilst one or two more have been flowered on warm walls during the summer months. Save in a few cases *Bignonias* are shy flowerers, and to be successfully cultivated require to be well understood. Border culture is in most instances preferable to pot culture, providing the borders are thoroughly drained and too great a root run is not given. A depth of 1½ feet of a compost consisting of equal parts good fibrous loam and peat with the addition of sand and grit will be found suitable. If a greater depth of soil is given it is apt to induce much growth and few flowers. As they are sun lovers a light place must be provided, the best position being on wires 6 inches below the glass for indoor species and a warm south wall for the hardy ones. Attention must be given to thinning the shoots or a great tangled mass will be made from which few flowers will appear. Strong,



THE PALAZZO ORENGO AT LA MORTOLA. (Photographed by Miss Willmott.)

sturdy shoots must be encouraged, which should have the best possible opportunities of maturing. After the flowers are over the shoots may be spurred back to within an eye or two of the old wood, and from these spurs strong shoots will appear. Propagation is effected by inserting cuttings of half-ripe shoots during the summer months in sandy soil in a warm, close case.

The following is a selection of the best of the species in cultivation, together with a few species belonging to other genera, which are in gardens usually spoken of as Bignonias:—

B. equinoctialis.—About 135 years ago this was introduced from tropical America. It grows to a considerable height, and makes, naturally, a dense tangled mass of thin branches. The leaves are conjugate and hairless. The leaflets are 2 inches to 3 inches long, broadly lanceolate, and from between them a tendril is produced. The flowers are borne during summer in pairs from the axils of the leaves and also in terminal racemes. They are tubular, 2 inches or sometimes more long, and yellow. It is rather difficult to induce this species to flower under cultivation, and a considerable amount of thinning of the shoots is essential.

B. argyreo-violascens.—The chief beauty of this lies in its ornamental foliage. The leaves are simple, ovate, acuminate, green prettily marbled with rose and white, the rose being most noticeable in the young leaves. It is a native of South America, and was first exhibited by Mr. Bull of Chelsea.

B. buccinatoria.—This will be better known to many people under the name of *B. Cherere* or *Kerere*, as it is sometimes written, a name which is a synonym of the species. According to the "Index Kewensis" there is a true *B. Kerere*, however, and a figure of it is given in Aublet's "Histoire des Plantes de la Guiane Française." From the figure the flowers appear to be considerably smaller than are those of *buccinatoria*. The species under notice is one of the most showy, and is the one which is probably most often seen in cultivation. Although it is stated to have been introduced in the eighteenth century, very little was known of it until the Earl of Granville introduced it into his garden at Dropmore in 1837. When it flowered specimens were forwarded to Dr. Lindley, who figured it in the *Botanical Register* as *B. Cherere*. It is a native of Central Mexico, where it grows at an elevation of 6,000 feet to 8,000 feet. Under cultivation it succeeds best in a sunny greenhouse, but it must not be expected to flower before it attains a good size. The branches grow to a considerable length, and are stouter than those of many other species. The leaves are compound, and vary in character, some being ternate, others having but two leaflets. The leaflets are ovate, acuminate, and glabrous. The flowers are 4 inches to 5 inches in length and 1½ inches to 2 inches across the mouth, orange-red in colour, though of many shades, and are borne in large cymes. When well flowered it is a lovely sight and the plant is well worthy of attention.

B. capreolata.—On a south wall at Kew this flowers freely every year. Like most of the other species, it has been in cultivation for a considerable period, a figure of it prepared from a specimen grown in the Physic Garden at Chelsea having been published in the *Botanical Magazine*, t. 864, in 1805. The leaves are conjugate or sometimes simple with small three-parted tendrils. The leaflets are rather large and cordate. The flowers are borne singly or several together from the axils of the leaves during summer. They are 3 inches to 4 inches long, and of an orange colour



ALOE SUPRALEVIS IN FLOWER IN APRIL IN THE GARDEN AT LA MORTOLA.

(Photographed by Miss Willmott.)

or orange suffused with scarlet. For a warm wall it is an excellent subject, as it can be depended on to flower freely every year. A variety with darker flowers, known as *atrosanguinea*, has been introduced.

B. Carolinæ.—In 1842 this is recorded as having flowered in the garden of the Earl of Ilchester in Dorsetshire. The flowers are cream-coloured, with a yellow throat. The inflorescence is a raceme.

B. Chamberlaynii.—The plant known in gardens under this name is correctly *Anemopagma racemosum*; *B. Chere*, correctly *B. buccinatoria*; *B. chrysantha*, correctly *Tecoma chrysantha*; *B. Colei*, correctly *Colea mauritiana*.

B. Fraseri.—In general habit and appearance this closely resembles *tweediana*, though the flowers are slightly smaller. At Kew a good-sized plant is to be seen growing against the south wall of the tropical Orchid house, where it flowered very freely last summer, and, except for slight injury to the youngest shoots, it has passed safely through the winter. *B. grandiflora*.—This is correctly *Tecoma grandiflora*, a well known, hardy, autumn-flowering climber. *B. jasminoides*, correctly *Tecoma jasminoides*.

B. Lindleyi.—This is a lovely plant, the flowers being freely produced from the leaf axils. They are fairly large, of a violet colour, freely marked with rich purple veins. It flowered for the first time in Messrs. Rollisson's nursery in 1842, and was at that time recommended for growing on trellises in pots, a rich loamy soil being advised for it. Grown on a roof it flowers freely, and is an excellent greenhouse plant. It is a native of Argentina.

B. magnifica.—A figure of this was given in Mr. Bull's catalogue for 1879, it having been

introduced from Colombia a few years earlier. It has simple, opposite, ovate, acuminate leaves, and large, spreading flowers, which vary in colour from delicate mauve to rich purplish crimson, the flowers being in large panicles. It succeeds best in a warm greenhouse. *B. Pardorea*.—This is correctly *Tecoma australis*. *B. picta*.—This is correctly *B. Lindleyi*.

B. purpurea.—Of the stove species this is one of the most free flowering. It is an old introduced plant, having been figured in 1869, and for thirty years previously said to have been in cultivation at the Liverpool Botanic Garden. It is of slender growth with conjugate leaves, the leaflets being obovate, 2½ inches to 3½ inches long, and bright green. The flowers are borne in pairs from the axils of the leaves in spring and early summer, two flowers usually being together. The corolla is funnel-shaped, 1 inch or more long, mauve, with a large white eye.

B. rugosa.—This was discovered by Wagener in the province of Choco, United States of Columbia, at an elevation of 4,000 feet, and is described as growing to a height of 20 feet. In 1872 seeds were sent to Kew by Dr. Ernst, and a plant flowered in the large Palm house in 1889. The branches are slender, the leaves bifoliate, with oval leaflets 3 inches to 4 inches long and pubescent, as also are the young stems. The flowers are primrose-yellow, 2 inches to 2½ inches long, and borne in axillary cymes. A figure is given in the *Botanical Magazine*, t. 7124.

B. speciosa.—In many respects this closely resembles *B. purpurea*, differing principally in the wider corolla tube and shorter calyx. It makes a good-sized climber with slender stems, leaflets 3 inches long and 1½ inches wide. The flowers are very handsome. They are very freely borne from the axils of the leaves in spring and early summer, are lilac, streaked with darker veins, the throat being yellow. It was first sent by Mr. Tweedie from Buenos Ayres to Woburn Abbey, where it was in cultivation previous to 1839. It is one of the most free-flowering species.

B. tweediana.—A lovely yellow-flowered, slender-stemmed plant from Brazil, growing well and flowering freely in a warm greenhouse temperature. The flowers are axillary 2½ inches to 3½ inches long, and upwards of 2 inches across the mouth. The leaves are conjugate, the leaflets lanceolate. This has been flowered out of doors on the wall of a warm house, but it is doubtful whether it will recover from the effects of the winter.

B. Unguis-Cati.—This is a tropical American species, resembling to a great extent the foregoing. The plant known as *B. Unguis* in gardens is a synonym of this.

B. venusta.—When well flowered this is one of the most lovely of all species, but in very few places is it really well done. It is a Brazilian plant, and grows to a great height, the shoots being strong and the leaflets large and dark green. The flowers are in terminal corymbs, and are often 5 inches or 6 inches long, funnel-shaped, and crimson in colour. It succeeds best in a warm greenhouse exposed to full sun, but is rarely flowered well. It has been in cultivation upwards of eighty years. The above-mentioned are the principal species in cultivation. Many others have been described, but if they have been introduced they are now lost or almost lost to cultivation.

W. DALLIMORE.

THE FRUIT GARDEN.

FIG CULTURE OUT OF DOORS AND UNDER GLASS.

EVERY year the Fig is becoming more sought after, and as the art of growing it to greater perfection becomes better known so will there be an increased demand for the fruit, and as this greater perfection of culture can only be arrived at by glass culture to this method our thoughts will now be directed.

There are two well-known methods of growing this fruit under glass, one by planting the trees out in prepared borders, allowing the branches to extend to almost any limit which the grower may be able to command, and the other is by growing them in pots or in tubs in a much more restricted way. The latter system is much better adapted for the amateur, where space may be limited, and where it may be desired to grow a number of the best and most interesting varieties. Where quantity and size of fruit are of the greatest importance, then the system of planting the trees out is, in my opinion, unquestionably the best. The Fig tree is a strong grower, and will succeed in any form of house as long as there is room for expansion, but a lean-to structure with a long and high pitched roof, or a span-roofed house, suits them best. One of the best houses of Figs I have seen is the one at Chatsworth, and this has a large lean-to roof. I would limit the border for the first year to 2 feet, and not add the quarter-inch bones; this is in order to prevent too gross a growth, and the tendency of the planted-out Fig to do this must always be guarded against, especially for the first few years after planting. As is well known, it is almost impossible to ripen properly very strong growth, therefore let the grower be on his guard against conditions that in any way favour this evil. Supposing the house it is desired to plant be a good sized lean-to I would suggest that it be planted with three trees—one in the middle and one at the two ends—one tree will soon be large enough to fill the house, but if it is desired to have two varieties I would plant the two ends, one with Brown Turkey and one with White Marseilles, and another Brown Turkey in the middle, this to be taken out as soon as the end trees reach the middle, and if it should ultimately be a question of quality and quantity of fruit, as soon as the two end trees meet after the middle one has been cut out, then let the White Marseilles be gradually cut away, making room for the Brown Turkey, until alternately the one tree fills the house. The border must be added to little by little every year, but the fact must always be borne in mind that rather a restricted root area is best for the Fig. I do not know any fruit tree which forms surface roots in greater abundance in so short a time as the Fig, and this fact must always be borne in mind by the cultivator, as herein lies one of the secrets of success, enabling one to feed the trees with surface stimulants after a good crop is secured, and when there is no danger of adding to the grossness of the tree's growth. For this purpose there is no better top-dressing than deer manure and loam in equal proportion, and there is no better liquid manure than that from the cow or stable yard. This should be given freely in the height of summer, once a week not being

too often, and whilst the fruit is swelling an occasional slight sprinkling of nitrate of soda works wonders. In selecting the trees for planting care must be taken to choose those only which have a clear stem of at least 2 feet from the ground. This is in order not to be troubled with suckers from the base, to which the Fig is very subject. When these appear they should be rigorously cut away close to the roots.

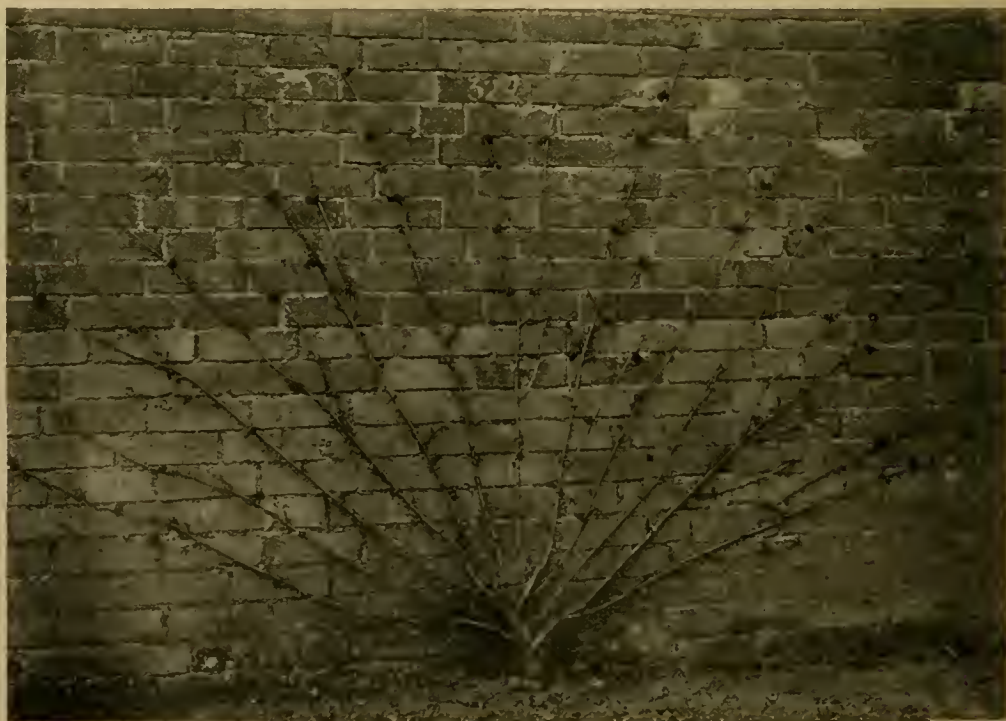
TRAINING.

There are two ways of training the Fig when planted out and allowed to grow away freely. One is by allowing it to cover the whole trellis (which should be 2 feet from the glass), and the other is by confining the growths to single cordons under the rafters, with side shoots, in the same manner as Vines are grown, only that the shoots are tied rather closer to the rafters. This system of training answers well, admitting as it does a certain amount of light and sun heat amongst the fruit and branches, helping them in a remarkable way to mature and bring the fruit to the highest perfection, at the same time securing the perfect ripening of the wood for future crops. The covering of the entire roof with bearing wood not too thickly distributed also answers excellently, but I do not think the quality of the fruit is so good as when rafting training is adopted, where the benefit of the sun's rays is so amply secured. The Fig bears more than one crop in the course of the year, sometimes even three. The first crop is always the most valuable, because it is the earliest, and as such is the most appreciated, whether at the private table or in the market. This crop is produced on the shoots of the past year's growth, and it is the crop which requires by far the most skill to produce, and its success or failure depends almost entirely on the care and forethought given to maturing the growth of the previous summer and autumn. Should this be soft, green, and immature, the prospect of a first crop worth having is *nil*. The second crop, which is produced on the shoots of the current year's growth, is, generally

speaking, a full crop, and easily produced. The third crop is produced on the lateral growth of the shoots which has produced the second crop, and should never be taken unless under very exceptional circumstances, as the fruit is small and seldom appreciated. Therefore I would advise that this crop be sacrificed by plucking the fruit as soon as it is perceived, thereby husbanding the strength of the tree for next year's crop. There are two ways of managing the summer's growth of the Fig—one is by stopping the shoots at the sixth or seventh leaf, and the other is by allowing the shoot to grow to its full length without stopping at all. I have practised them both for many years, and, according to my experience, one system answers as well as the other, and the cultivator can adopt that best suited to his circumstances, always bearing in mind that overcrowding of the shoots must be guarded against.

THINNING THE FRUIT.

The Fig sets its fruit, as a rule, most freely, and I think that greater liberty is taken in consequence by allowing it to carry crops out of all proportion to its strength. It is a singular fact, but nevertheless true, how seldom one comes across a really grand dish of Figs. I have had the honour of judging some of the best collections of fruit exhibited in this country during the last twenty years, and I can safely say that during the whole of that time to find a really grand dish of Figs has been the exception and not the rule, and I believe that the chief reason for this must be looked for in the evil of overcrowding. This is a weakness which must be guarded against, as far better in every way is it to have one fine, well-nourished and ripened fruit than half a dozen dried up things with no inside in them. The Fig stands forcing as well or better than any of our fruit trees. It can be exposed to greater heat, both artificial and natural, than any other hard-wooded fruit, excepting perhaps the Vine, and there is no crop which can be produced and matured in



FAN-TRAINED FIG TREE.

the winter months in so little time, for by starting a house towards the end of November ripe Figs can be had at the end of March or the first week in April.

VENTILATION, especially in early spring, must have the cultivator's thoughtful care. In the case of the first crop—expected to be ripe at the end of March—no front air should be given, except the weather should be exceptionally hot towards the end of the month, as it sometimes is, when a little may be admitted in the middle of the day for a short time. The temperature of the house at this time of the year can easily be regulated by the top ventilators alone. More air should be admitted as the fruit shows signs of ripening, but not to the same extent in the case of the Fig as in that of the Peach, as the fruit gets a better size and of better quality in rather a close and moist atmosphere than in too dry a one.

THE TIME OF FLOWERING AND FERTILISATION OF THE FIG

are important points, bearing on its successful culture, as if fertilisation should only be partial then complete success is impossible. It is not easy to describe to an inexperienced person the actual time in the case of the Fig when fertilisation takes place, but generally speaking after the young fruit makes its appearance it swells freely and without interruption until it attains about the size of a Walnut. It will then be observed that the fruit appears to remain at a standstill for some considerable time—from a fortnight to three weeks—and during this time, with the object of bringing about a good set, the temperature of the house should be kept at a uniform heat as near as possible, and lower by 3° or 4° than the normal temperature for the season of the year, and the atmosphere should also be of a drier nature for this short period. During this time of suspended growth it will be well to cut an occasional fruit, when it will be interesting to watch the different processes from the flowering period to that of complete fertility. A sure outward indication that this has taken place is in the resumption of growth in the fruit, and another indication, also always apparent more or less at this time, is in the fact that the tree will cast off most of the barren fruit—that is, infertile fruit. This need cause the inexperienced no alarm, as it is a natural process of the tree divesting itself of a load it has been unable to carry to complete fruition. The fruit will now swell freely and rapidly, and generous treatment should be given in the way of warmth, syringing, and watering.

When the first crop has been gathered it will be necessary to overhaul the trees, as at this time the house will have become too full of foliage. All weak shoots that can be spared must be cut out, leaving only sufficient of the best shoots of the current year's growth to produce the next and main crop. These branches should now be regulated and tied down, the border given another slight dressing, this time of fresh horse manure, and a good soaking of manure water at a temperate of 80°. The treatment afterwards must be a generous one, giving plenty of water at the root, as well as copious syringings morning and afternoon, closing up with a good heat, running up the temperature with sun-heat from 80° to 85°. After the second crop is gathered the same



FIGS OUTDOORS AT TARRING, NEAR WORTHING.

routine must be observed in thinning out weak growths as recommended after the first crop. These two prunings are all that are needed in the course of the year, excepting that in winter, when tying the branches to the trellis it may be found necessary to cut a few more out. The insect enemies of the Fig are few compared to the enemies which attack many other of our fruit trees, the most troublesome being the brown and white scale, the latter being by far the most to be dreaded. I do not think the latter is so frequently met with now as it used to be in days gone by, at any rate it has not come so much under my observation, the reason being, I think, the hopelessness of ever being able to eradicate it. No remedy that I know or have heard of is efficacious for the purpose, without at the same time crippling or even destroying the trees. The remedy, therefore, is as bad as the evil, so that in my opinion anyone unfortunate enough to have his trees infested with this horrible little pest, the best thing he can do for his own peace of mind, as well as for the welfare of his Fig crops, is to burn the whole of the trees affected, and to sue the party for damages through whom it was introduced. The brown scale, although of not so persistent and vicious a character, or so difficult to eradicate, is still a troublesome pest, and the only chance the cultivator has to combat with it is in the winter season when the trees are at rest, and the best remedy I have found for its destruction is hot water, and the most effective way to apply this is by a painter's brush, taking care that every portion of the surface of the trees affected is dressed. I need scarcely point out that great care must be exercised in carrying out this work, and only a skilled and trustworthy workman should be entrusted with the duty. The water must be hot enough to scald, otherwise it will not kill, but it must not be boiling, and the water must be used as sparingly as possible. With these precautions properly observed the remedy is simple, safe, and effectual. Red spider and thrip are occasionally troublesome, but the

syringe will, if frequently applied, keep these enemies in check, but where they have unfortunately secured a hold upon the trees, flowers of black sulphur applied to the pipes when hot, and the house closed, is the best remedy for the former, and fumigation by XL All is the best remedy for the latter. Figs in pots will be treated under the heading Orchard House trees.

O. THOMAS.

(To be continued.)

CORRESPONDENCE.

(The Editor is not responsible for the opinions expressed by correspondents.)

HARDY FLOWERS FOR THE GREENHOUSE.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—I observe you invite further information, *re* "A New Subscriber's Query," on the above subject. Seeing that the greenhouse in question is to be heated, and that the temperature of 55° can be maintained, I see no reason why the ordinary greenhouse plants might not be grown the whole year round. A temperature of 55° is more than sufficient for an ordinary greenhouse; in fact, flowers would last much better in a lower temperature, say 45°. Your correspondent probably means useful greenhouse plants and not hardy plants as usually understood by that name. If this be so why not try a few of the more easily grown Orchids, viz., *Cypripedium insigne*, *Lycaste Skinneri*, *Cypripedium Boxallii*, *Caelogyne cristata*, *Dendrobium nobile*, and I have found *Cypripedium spicerianum* so far better in such a temperature than a higher one. Why not begin with these few easily-grown Orchids, placing them in the shadiest part of the house, where the moisture will not escape too rapidly? Then there are *Arum Lilies*, *Clivias*, the old *C. miniata*, for instance, is a beautiful and easily grown plant for spring flowering; *Indian*, as well as *mollis* *Azaleas*, are indispensable. *Streptosolen Jamesoni* is a beautiful and easily grown plant; *Vallota purpurea*, or *Scarborough Lily*, is a great favourite;

Amaryllises are easily grown and very effective; Gloxinias, Achimenes, Begonias, especially those fine plants B. Gloire de Lorraine and B. President Carnot, Genistas, Coronilla glauca is a fine old greenhouse plant; Crinum Moorei is a fine greenhouse plant and very easily managed; so also is Agapanthus umbellatus. A few Roses, Tea and Hybrid Teas, might be grown for supplying buds for spring. Such varieties as Catherine Mermet, Niphetos, Maréchal Niel, The Bride, Marie Van Houtte, and a great many others are equally as beautiful and easily grown. Then there are a great many bulbous plants which can be brought on for early spring flowering, such as Roman Hyacinths, Polyanthus Narcissus, Tulips, Narcissus princeps, Sir Watkin, Emperor, Empress, bicolor Horsfieldi, and large-flowered Hyacinths.

Lilies should play an important part in the summer display, viz., *L. auratum*, *L. lancifolium*, *L. l. album*, *L. Harrisii*, and *L. candidum*. Lily of the Valley is always appreciated; so are Freesias and Lachenalias, particularly that fine variety Nelsoni. Spireas will also be useful for early spring time, particularly *Astilboides* and *A. grandiflora*. Of course, Coleus will be grown for summer. The above are amongst the most useful flowering plants for the greenhouse. Space will not allow of details, therefore the best advice I can give "New Subscriber" is to follow the advice given week by week in these pages by competent writers. T. ARNOLD.

The Gardens, Cirencester House.

[Although we print this letter, as "New Subscriber" will probably get some useful hints from it, we feel sure only *hardy* plants are desired, therefore the useful articles by "K. L. D.," now running through THE GARDEN, will be especially helpful to our correspondent. We hope any reader who has grown certain *hardy* plants in the greenhouse with success will also help "New Subscriber;" it is an interesting subject. An article published in THE GARDEN, March 1 last, page 136, entitled "The Alpine House at Kew," should also prove useful.—Ed.]

CAULIFLOWER SEEDLINGS BLIND.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—Readers of THE GARDEN would feel obliged if growers of Cauliflowers and the Early Broccoli would give them advice concerning the failure of these plants in the seed-bed. For years, at least a quarter of a century, I have observed certain varieties of Cauliflower plants are blind, and this has led me to try various remedies. All have failed, and the same thing happens yearly. For instance, in a season like this, with ample moisture and sowing at the usual dates, there is the same loss. Ample space is given, a fresh site yearly, good land, and there is no crowding. I am aware it may not be due to climatic conditions, but to insect agency. The evil, however, only affects the Cauliflower and early Broccoli Sprouts. Kales and Cabbage treated in the same way are quite free, whereas quite 50 per cent., indeed, often much greater, of the plants named are useless. No matter if planted early, they go blind afterwards, and the worst in this respect are the Autumn Giant Cauliflower and the Early Protecting Broccoli. If the readers of THE GARDEN can give any remedy I should be grateful, and I may add the seed is not to blame; at least, it is obtained from the best sources. GROWER.

NARCISSUS MAXIMUS.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—Until reading the recent correspondence in THE GARDEN, I had no idea this Narcissus was shy flowering. Here *N. maximus* has always been regarded as a free flowering variety, and quite the best in all the Narcissi family. Last October I planted 100 new bulbs in a newly trenched plot of grass land quite in the open, the result being satisfactory in every way. All the bulbs flowered, many giving two, and some three blossoms, of a size and richness of colour unsurpassed even by those at the great Daffodil show in the Drill Hall in April. Many say that fresh manure should not

come into contact with the roots of Daffodils; this I find is quite misleading. Here in our stiff, heavy soil I cannot apply too much manure apparently, when preparing a new plot a month or so before planting. Not only *N. maximus*, but such varieties as Golden Spur, Emperor, forms of Phoenix, as well as the double white, and many others appear to revel in highly-manured soil when it is trenched and thoroughly broken up 2 feet deep. The bulk of these strong-growing forms of Narcissi appear to me to like freedom of rooting space, with something in the soil to "pull at," as it were, and abundance of air and exposure, quite away from overhanging trees. The variety that I complain of as being shy flowering and of weakly growth is *N. princeps*. This certainly does not succeed anything like as well as the others.

South Hants.

E. MOLYNEUX.

SEED OF LILIUM GIGANTEUM.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—On page 353 Mr. E. Lloyd Edwards asks for information as to this, and puts the following questions: (1) Should it be soaked before being sown?—Answer: No. (2) Must it be sown in any particular soil, or in heat or cold?—Answer: Use very sandy loam and cover the seed fully three-eighths of an inch deep. Cold frame is best, or a cool house of not more than 45° or 50°. As to the time the seed takes to germinate, this depends entirely on the quality and freshness of the seed. Speaking generally all Lily seed should be sown as soon after it is ripe as possible. Where this is done a cold frame is the best place for it. *L. giganteum* I formerly sowed in boxes 3 inches deep at least. A rather deep box or pan possesses an advantage over a more shallow article—firstly, to allow of drainage; secondly, a fair depth of soil; and, thirdly, a cavity of an inch at the surface. It is best when making the sowing to sow thinly, so that no disturbance is necessary for a year or more after the first leaf growth appears. When the seeds are sown as if so much Mustard and Cress this cannot be done. The lifetime above ground of the first appearing seedlings is but a question of a few weeks, and under these circumstances it is necessary that no interference be made. Let the growth be made as slowly and naturally as possible, let the decay of the seedling plant be also so regarded, and from this time until the season of growth comes round a season of comparative dryness should prevail—that is to say, sufficient moisture to permit of no dust-dry tendency in the soil. With the second season's growth in the seed boxes a longer time will be required, and growth should be maintained as long as possible. Sometime after the seedlings die down again is favourable for the first replanting, then secure a frame with a depth of good rich and sandy loam, and place in the small bulbs which you will have to secure by means of a fine mesh sieve. Prick them out in drills, 2 inches or 3 inches asunder, or you may leave the replanting till growth appears again. As, however, the spring is then at hand, work is plentiful in other ways, therefore I have chosen autumn. A light shade on the glass and a sprinkling of water at evening will keep the young plants going well. In such a frame, with 9 inches clear head room, the young plants will be safe for a couple of years, when richer soil and more spacious quarters will be necessary. The flowering usually occurs in seven or eight years, and the young plants in their fourth year should, if well treated, be ready for their permanent quarters in the open ground. Sown as soon as ripe, the bulk of the seed will grow the following year.

Hampton Hill.

E. JENKINS.

TACSONIA MOLLISSIMA.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—A *Tacsonia mollissima* raised from seed, sown March last year, has since May 10 borne a succession of its long tubular pink flowers and already covered some 10 yards of a pergola in my garden here, and its fruit is now maturing. Firminger, in his "Manual of (Indian) Gardening,"

page 207, fourth edition, in part relating to the fruit garden, states that *T. mollissima* bears, in great abundance, a pale green fruit of the size of a goose's egg and of rather an agreeable flavour; while Nicholson, in his "Dictionary," is silent as to this fruit being edible, but states that that of a somewhat similar plant, viz., *T. mixta*, is edible. Can you or any of your readers kindly enlighten me on this apparent discrepancy? Mr. S. W. Fitzherbert, in THE GARDEN, vol. lix., page 3, states that *T. mollissima* is hardy in the south-west of England on a house wall.

E. F. BURTON.

Villa Pendice, Bordighera, Italy.

TREES AND SHRUBS.

DECIDUOUS RHODODENDRONS (AZALEAS).

FOR many years the hardy deciduous Rhododendrons were known only as Azaleas, and in many places the name Azalea is still retained. When the two sections—deciduous and evergreen—are compared it will be readily seen that there is no real structural difference between the two, and although in the making of the two genera the number of stamens was considered one of the principal points, it has since been shown that it is a point not worthy of notice, as the number of stamens varies considerably in both deciduous and evergreen species. For garden purposes, however, it is extremely doubtful whether the name Azalea will be dropped, for a considerable time at any rate, so fast has it become rooted in the minds of horticulturists.

About twenty species have been known under the name of Azalea, some three or four of which are evergreen, the remainder deciduous. Of these about half a dozen are really well known in gardens either by type plants, hybrids, or garden forms. The majority of the species belong to China and Japan and North America, one species being found in the Caucasus. Several of the North American species, such as *arborescens*, *calendulaceum*, *nudiflorum*, &c., the Chinese and Japanese species *sinense* (better known as *Azalea mollis*), and the Caucasian *flavum* (syn. *Azalea pontica*) have formed splendid breeders, and in the hands of the hybridist a wonderful assortment of varieties have been obtained, which for delicate shades and rich colouring are unsurpassed among hardy shrubs. The colours range from white to pink, and from pink to blood red, from lemon to deep yellow and orange-scarlet, with all sorts of intervening shades and combinations of colour.

Many of these hybrids have been raised in Ghent, a fact which has given rise to their name of Ghent Azaleas. In England, Mr. Anthony Waterer has raised very large quantities of seedlings, and to him we are indebted for many of the best reds. Of late years these Rhododendrons, particularly the *sinense* group, have been called into use for forcing, and they are extremely useful plants for that purpose, as has been well demonstrated by the bright showy groups exhibited at various meetings of the Royal Horticultural Society by Messrs. Cuthbert and other firms. Of the various species in cultivation the following are selected as being of most value:—

R. arborescens (syn. *Azalea arborescens*).—In 1816 this was first brought to notice, a description of it being published by Pursh in his "Flora of North America," he having found it growing in the mountains of Pennsylvania. It had, however, been found previously by Mr. John Bertram, but not described. It is a native of the mountainous regions from Pennsylvania to South Carolina and Tennessee, especially about the lower portions of the mountains of North Carolina, where it is said to grow along the borders of streams, attaining a height of from 15 feet to 20 feet. Its flowers are fragrant and white, tinged with rose, the stamens being scarlet; occasionally, however, the colour is rose. Here it does not grow to the above height, 8 feet or 9 feet being about its size.

R. calendulaceum (syn. *Azalea calendulacea*).—This is said to be one of the commonest shrubs in the Alleghany Forests, where it grows in great masses. Here it forms a large bush about 8 feet high, and is one of the best of the species. It flowers in May and June, and exhibits a great range of colour, yellow, red, and orange all being found. It has been known for nearly a century.

R. flavum (syn. *Azalea pontica*).—Few Rhododendrons are better known than this, as it has been grown for upwards of a century in English gardens. It is a native of the Caucasus, grows 6 feet or 8 feet high, has fairly large shiny leaves, and yellow, fragrant flowers. Besides useful outdoors, it is also excellent for forcing.

R. indicum (syn. *Azalea indica*).—Though not a deciduous *Azalea*, it may not be out of place to mention this, as it is a species which is usually called *Azalea* in gardens. It is widely distributed in the mountains of China and Japan, and has long been a garden favourite. It has been improved considerably from the wild state, and there are many very fine garden forms of it. The majority of these are, unfortunately, not hardy, and a few only can be used outside with any degree of success. About ten years ago Professor Sargent, of the Arnold Arboretum, collected seeds of the type in the mountains of Japan, and the young plants have proved fairly hardy, but flower as a rule too early to be of any great garden value. The well-known variety *amœnum* is the hardiest of the set varieties. It is well known by reason of its reddish hose-in-hose fashioned flowers. The variety *balsaminæflorum* is a dwarf plant suitable for the rock garden; it has pretty double Rose-like salmon-coloured flowers.

R. ledifolium (syn. *Azalea ledifolia*).—In some respects this resembles the old white *indicum* of gardens, but the leaves are more hairy, and it is hardier. It is, like the preceding, an evergreen. Its country is China and Japan. At Kew it grows well out of doors.

R. nudiflorum (syn. *Azalea nudiflora*).—This is an extremely useful plant, and has been of considerable service to the hybridist. It has been known for nearly 200 years, and is widely distributed from Canada to Florida and Texas. It grows about 6 feet high, makes a spreading bush, and bears pinkish flowers, though flowers of many hues are to be found among its many forms.

R. occidentale (syn. *A. occidentalis*).—This

species flowers later than most of the others, and by using it as a parent hybrids have been raised between it and the earlier species, which prolong the flowering period. It is a native of California, forms a good-sized bush, and flowers freely, the flowers being white and fragrant. The leaves of this species are very glossy.

R. rhombicum (syn. *A. rhombica*).—In early April this plant begins to show the colour of its flowers, and by the end of the month is in full bloom. It is a native of Japan, and is easily distinguished by its rhomboid leaves and large rosy lilac flowers. In the seedling stage it is rather tender, and until it is several years old it is difficult to grow.

R. sinense (syn. *A. mollis*).—When at its best few things are more showy than this plant, for it blooms with great freedom, the flowers are large and brilliantly coloured, and it is easy to grow. It is found in both China and Japan, grows about 4 feet or 5 feet high, and has red or bright yellow flowers. By crossing and selection a lovely race has been raised, which shows a wide range of colour.

R. vaseyi.—Of the lesser-known species this is one of the prettiest, and it is worth including in every collection. It is found in the mountains of Carolina, and makes a small bush with pretty white flowers suffused with pink. A variety is in cultivation with pure white flowers. It is in cultivation at Kew, a small bed of it being near the *Azalea* garden, in addition to a number of plants in the mixed beds.

R. viscosum (syn. *A. viscosa*).—As a rule this does not flower until most of the others are over, its flowering period being late June and July. It is a North American species, and is easily recognised by means of its viscid leaves. The flowers are usually white, though occasionally pink varieties are found.

As previously stated, the species which have entered most largely into the production of the garden forms are *arborescens*, *calendulaceum*, *flavum*, *nudiflorum*, *occidentale*, *sinense*, and *viscosum*. From *calendulaceum* most of the orange and orange-scarlet and red forms have originated, *flavum* has been responsible for many of the yellows and terra-cottas, *arborescens*, *occidentale*, and *viscosum* for the whites and pale rose varieties, also for the late flowering ones, while *nudiflorum* has been responsible for a great

number of hybrids of all shades. As a rule, it is much easier to trace *R. sinense* blood among hybrids than that of other species, the flowers in that case being larger and the leaves more closely resembling the species, but even in some of these repeated intercrossing has almost obliterated the special *sinense* characters. Of named varieties there are hosts of both single and double, and of these it would be a difficult matter to make a selection, as all are worthy of cultivation. One variety, which is very fine at Kew this year, is called "*odorata Davisii*;" it has buff-coloured flowers, with deeper marks on the upper petals.

W. DALLIMORE.

GARDENING OF THE WEEK.

KITCHEN GARDEN.

MULCHING.

NEARLY all vegetable crops are greatly benefited by thorough mulchings to the roots in good time, especially while in active growth, either on light or heavy land, as it conserves the moisture, keeps the roots cool during hot weather, and prevents the ground to a great extent from cracking. For the purpose I prefer long stable litter for such things as Peas, Beans of all kinds, Cauliflowers, Globe Artichokes, and Rhubarb; for Beet, Onions, and Carrots old Mushroom bed manure. One-half the watering can be dispensed with in dry weather when this is properly carried out.

PEAS.

Thin out and stake all main crop varieties as soon as ready, and keep the earlier sowings well supplied with manure water. Make the last sowing of suitable varieties in trenches on well-prepared ground. It will be of little use sowing after this date in many parts of the country, and if the ground is well prepared, suitable kinds selected, such as *Autocrat*, and the seed sown thinly, there will be no need, as with liberal treatment these will continue to bear quite late in the autumn. Allow plenty of distance between the rows, and drill Spinach between them, which is sure to come in at a time when this is none too plentiful.

TURNIPS.

Good breadths should be sown, choosing as far as possible showery weather. It is a capital plan during spells of drought, after drilling the seed, to strew over the surface about half an inch thick of short lawn grass. This not only keeps the ground moist, but will to a very great extent prevent the seed being ravaged by birds and the Turnip fly. Thin out earlier sowings as soon as the seedlings are sufficiently advanced, partially at first, and set them out to the proper distance after the first rough leaf is made. Dust the crop with a small application of patent vegetable manure, wood ashes, and soot, and stir the ground frequently with the Dutch hoe to promote a quick growth, always so essential in Turnip culture. As soon as the bulbs of the Early Milan type are of a fair size they should be pulled and stored in a cool place, as they quickly get hot and stringy at this season if left in the ground.

LETTUCE.

Sow frequently *Mammoth* and *Pais White Cos*, also Cabbage varieties if required, and plant out part of the thinnings from each sowing.

ENDIVE.

Both *Batavian* and curled varieties should be sown fortnightly, choosing cool parts of the garden, where they will mature much better at this season, otherwise these will quickly run to flower.

RADISHES

also should now be grown on north borders



IN THE AZALEA GARDEN AT KEW.

or shady positions, and make small sowings every ten days. Radishes should always be grown quickly and pulled quite young. French Breakfast is hard to beat for summer and autumn.

CARROTS.

Make another good sowing on a warm border of the Short Horn type. These are often preferred to large specimens.

LEeks.

The earliest plants of these will need much attention by way of blanching. It is useless to allow them to make a stout growth and then expect long blanched stems; this must be done when quite young. Nothing is better than brown paper collars, which can either be purchased at a small cost or made at home, and after the desired height is obtained the earthing up can be done. The Leek is a moisture-loving plant, and during the growing season abundance of water must be given, both at the roots and overhead. There is yet plenty of time to plant and grow good Leeks for all kitchen use, and these should be planted in trenches, making double rows, or plant on the flat, boring deep holes and dropping down the plants so that the tops of the leaves are level with the surface, and gradually filling up the holes as the growth is made to ensure blanching. Any last year's plants which have not been used should at once be lifted and stored under a north wall, where they will last for some time fit for use.

E. BECKETT.

Aldenham House Gardens, Elstree, Herts.

INDOOR GARDEN.

WORK IN THE FLOWER HOUSES.

Now that the large plants for bedding out, and many other things, such as Camellias, Roses, &c., have been placed out of doors for the summer, preparations should be made to fill the houses with other subjects. To me it is surprising that with such a variety of hardy plants and annuals, one often sees so many houses during summer bare and almost empty instead of presenting a bright and cheerful appearance. I am quite alive to the fact that where so many winter-flowering plants are grown, it is difficult to keep the houses gay in summer. In our own case we grow hardy plants that will winter with little or no protection. For instance, a house used for forcing Azaleas, bulbs, &c., is now filled with tree and border Carnations. The Camellia house is being filled with Humeas and Campanula pyramidalis, Coreopsis, &c.; another with Gypsophila, Schizanthus, Rhodanthe, Lilliums, Gladiolus, &c. I venture to say that if gardeners would grow more hardy plants indoors glass structures would be less expensive, and would be looked upon with more real pleasure by their owners if kept as bright in summer as in winter. A few things well done, used in quantity, will produce a far finer effect than a mixed jumble or the old unthinking mixed-up way of thrice the quantity of plants.

PROPAGATING VARIEGATED AND FOLIAGE PLANTS.

The propagating quarters are generally less crowded during this month, so that no opportunity should be lost of increasing the stock. The constant use of plants indoors soon causes them to become unsightly, and as there are often useful cuttings or tops on them they should be taken. Abutilon Thompsoni and A. Savitzii are most valuable for the decoration of rooms or the dinner table, and under artificial light there are few things to equal them. Cuttings taken now of the young wood will make nice plants for autumn and winter. Insert singly in small pots in a compost of equal parts peat, leaf-mould, loam, and silver sand, and place in a propagating frame, with a temperature of about 70° or 80°, where they will root freely. Acalyphas, Crotons, and Panax Victoria should be similarly treated.

FICUS RADICANS VARIEGATA.

This is one of the prettiest plants for the intermediate house. It makes a good basket plant, and is also excellent as an edging for the stage. Insert about five cuttings in a small pot and grow on without disturbing it. This plant is a slow grower,

does not like too much water at the roots, and thrives best in a moist atmosphere. Panicum variegatum may be inserted in the same way. Dracenas that have lost their lower leaves should have their heads cut off, placed in 3-inch pots, plunged in a good bottom heat in a propagating frame, and shaded from the sun. If not allowed to flag they will retain their leaves and soon make nice plants. The stems may also be cut into lengths of 3 inches or 4 inches, put in pans filled with sandy soil, and placed in the same frame. Dieffenbachias may be treated in a similar manner.

JOHN FLEMING.

Wexham Park Gardens, Slough.

THE FLOWER GARDEN.

AQUILEGIAS

ARE such beautiful plants both in flower and foliage that they are invaluable for borders of herbaceous plants at this time of the year. Not only as decorative plants in the border are they to be admired, but for cutting they are most useful, and should be grown extensively in the reserve garden for that purpose. Though the rarer species are somewhat difficult to get and require to be propagated almost annually from seed, the lovely varieties and hybrid forms of the common Columbine are particularly easy of cultivation. So free and hardy are they that they are eminently adapted for growing in the wild parts of the flower garden, either by the streamlet or on slopes in the grass along with other naturalised subjects such as Foxgloves, Anchusas, and Camassias. At the present time seed may be either sown in the spots where the plants are to flower or on prepared beds in some out of the way part of the garden, and after thinning out the seedlings properly may be left until next spring, when they can be transplanted to the positions assigned to them.

MATRICARIA INODORA

is another plant, though belonging to a genus that has not much to recommend it, and being chiefly of a weedy appearance, is itself a pleasing plant with pretty foliage and pure white Chamomile-like flowers, which are borne in profusion on the ends of the growing shoots. The feathery foliage resembles Fennel, and is of a deep green colour that makes it very desirable in a mixed border; it is of a creeping habit, and should be pegged down to have it at its best, with plenty of room to develop. It is perennial, in most soils is perfectly hardy, and may be propagated at almost any time of the year by cuttings or divisions of the roots.

HUGH A. PETTIGREW.

Castle Gardens, St. Fagans.

THE FRUIT GARDEN.

OUTDOOR GRAPE VINES.

THESE having been disbudded, finally thin out the lateral growths, so that the strongest, which usually show the best bunches of fruit, are left about 15 inches apart. These should be stopped at two leaves beyond the best bunch, and those that are not fruiting at a corresponding length, all sub-laterals being pinched at one leaf. Secure the growths to the wall or trellis, and put extending shoots, which should be left 3 feet apart, in position, while in necessary cases young growths should be retained to replace unsatisfactory rods. Young Vines planted in poor soil, or old ones that have exhausted their supplies of nourishment, require to be freely assisted with liquid manure in dry weather or nourishing top-dressings of artificial manures, which must be washed into the soil by watering if the rainfall is deficient. They will be much helped if the borders are mulched with short litter. In hot, dry weather keep red spider from becoming troublesome by a free use of the syringe.

CHERRIES.

When in blossom the dessert varieties were remarkably promising, but the cold east and north-east winds which prevailed at the time played great havoc, and the crops of fruit are very thin in consequence. Apart from this the trees, particularly those belonging to the Duke family, have lost many spurs. Summer pruning should be carried

out before the fruit ripens by cutting the shoots in to about five leaves, leaving extending branches where necessary, and if there are any black aphids upon them dip the affected parts in a strong solution of Quassia Extract or tobacco water. Subsequently thoroughly wash the trees with the garden engine to clear away all filth and dead blossoms, and protect the fruit from birds once it commences to colour. These remarks apply both to trees upon walls and bush trees. Growths on pyramid or bush trees of Belle Magnifique, the Kentish and Morello should be thinned and stopped, so that crowding is prevented and the trees kept to a neat habit. These early varieties are often attacked by aphids, and should be sprayed with a good insecticide when it is needed. Upon dry soils especially a mulch of short litter and soakings of diluted liquid manure will greatly improve the size of the fruit.

APRICOTS.

If the shoots were not sufficiently thinned when disbudding was attended to the superfluous ones should be now stopped at about the fourth leaf, and those left for next year's bearing secured to the wall at a foot apart, and be stopped when they reach a foot or more in length, according to the space at command, the secondary growths being stopped at one leaf. Gross and otherwise unsatisfactory shoots should be entirely removed rather than stopped, as this would cause a thicket of unfruitful wood. The young shoots may be laid in and kept in position until the winter training by being crossed with a willow, with its ends inserted beneath the branches on either side. The trees should be examined periodically and caterpillars picked off. The borders must also be examined, especially close to the walls, and watered if necessary, for if neglected in this respect fruit dropping may ensue. Keep the fruit exposed so that it may fully colour, which if shaded is impossible.

RED CURRANTS AND GOOSEBERRIES.

Here the crops of fruit escaped injury from frost. The lateral growths should now or at an early date be shortened to the sixth leaf, leaving those wanted to improve the bushes, or, in the case of young ones, those that are necessary to form them. Plants trained upon walls, &c., should have similar treatment. A mulching of short litter will lessen the need of artificial watering should dry weather set in, and also keep the fruit from being soiled through heavy rains.

T. COOMBER.

The Hendre Gardens, Monmouth.

ORCHIDS.

ANGULOAS.

THESE are a remarkable and stately class of plants, having large pseudo-bulbs 6 inches or more high; their flower scapes are about 12 inches long, and issue from the base of the bulbs, just as they begin to grow. The flowers are large with thick fleshy sepals and petals. Though not possessing the graceful beauty of many Orchids, they are showy and distinct, and form useful plants for exhibition. A. eburnea, A. Clowesii, and A. Ruckerii are the most beautiful and useful, the colour of the flowers being distinct.

A. eburnea is a magnificent species, having flowers of the purest white, except the lip, which is spotted with pink; A. Clowesii is a distinct and free-growing species, the sepals and petals bright yellow, the lip white or yellow tipped with orange; A. Ruckerii has rich dark flowers, of which the sepals and petals have crimson spots on a yellow ground, and the lip deep crimson; A. media, a garden hybrid; A. dubia, a supposed natural hybrid; A. Turnerii, and A. virginalis are all worth a place in every collection. Anguloas are by no means difficult to cultivate, and are useful plants for amateurs, as they do not require much heat; they are generally termed cool house Orchids, but they require a few degrees more heat than the crispum section of Odontoglossums, and are best grown in pots at the warmest and driest part of the cool intermediate house. Soon after growth begins roots issue from their base when but a few inches long; then is the time to repot should this be needed. If this operation is left over till after the plants have flowered, the new

roots will have penetrated the compost, and it is then more difficult to perform, without causing injury to the roots. Peat and moss in equal proportions is the most suitable compost, using Fern roots as substitutes for crocks. After the young growths have well advanced they need plenty of water at the roots until the bulbs have fully developed. During the long period of rest they need only sufficient to keep the bulbs moderately plump. Their propagation is effected by dividing the pseudo-bulb, merely cutting the rhizome between first and second or second and third bulbs just as the plants are commencing to grow.

CHONDRORHYNCHA CHESTERTONI.

This is a beautiful stove epiphytal Orchid, the flowers of which are yellow, the lateral sepals developing into a long sharp point, the petals having a fully developed fringe, the lip also. It blooms very freely. Although not producing many flowers at one time, it continues to bloom throughout the spring and summer months. The plants thrive well in a shady stove with such things as *Miltonia Roezlii* or the warm-growing *Cypripediums*. When new growth commences they should be repotted if necessary in peat and sphagnum moss, using rather large pots, according to the size of the plants. Owing to their being exceptionally free rooters they should never be allowed to become dry.

ODONTOGLOSSUM GRANDE

is a most useful autumn-flowering species, and one of the most showy. It blooms very freely, is easy to cultivate, and requires little artificial heat to bring it to perfection. Thus it is a most suitable Orchid for amateurs or those commencing to grow Orchids. They are best grown in pots in peat and sphagnum moss, and Fern roots should be used as substitute for crocks. After a long period of rest they are now beginning to grow, and should be repotted at once if necessary, as they issue new roots from the base of the young growth when but an inch or two long. They grow well in the cool intermediate house—that is, a few degrees warmer than the cool *Odontoglossum* house.

F. W. THURGOOD.

Rosslyn Gardens, Stamford Hill, N.

SOCIETIES.

YORK GALA.

As announced in our last issue this important horticultural fête was held in the Bootham Field, York, on Wednesday, Thursday, and Friday, the 11th, 12th, and 13th inst. We then gave a brief summary of the most important classes, and now append a full report of the show. Bad weather was unfortunately experienced on all three days; this, however, did not prevent a good attendance. The non-competitive exhibits were not so numerous as usual, not one firm from the neighbourhood of London being represented by an exhibit, with the exception of Mr. Russell of Richmond. At the luncheon, held on the first day, the Lord Mayor of York presided, and there was a large gathering of well-known horticulturists.

NON-COMPETITIVE EXHIBITS.

Messrs. J. Backhouse and Son, The Nurseries, York, had an extensive and showy group of *Rhododendrons* in many good varieties, and the arrangement of their display was made effective by interspersing between the *Rhododendrons* many beautiful Japanese Maples, Golden Ivy, Azaleas, Spanish Broom, Liliums, &c., while the background was formed of Bamboos, Maples, &c. The society's gold medal was awarded to this exhibit.

Messrs. Richard Smith and Co., Worcester, showed a group of plants that was remarkable for the number of splendid Clematises contained in it; for instance, Grand Duchess (pale mauve), Excelsior (deep mauve), Venus Vitrix (double, lilac-blue), Sensation (rich blue), and Mrs. George Jackman (white). At the back of this display were arranged various Conifers, Bamboos, Acers, &c., and throughout the group were placed Golden Conifers, notably *Cupressus macrocarpa lutea*, *Enonymus Euryas*, *Pyrethrus*, *Anthuriums*, &c., a pretty edging being formed of Ferns, and other dwarf plants. Gold medal.

Messrs. Cowan and Co., Gateacre, Liverpool, were awarded the gold medal for the best collection of Orchids. They had an interesting and brilliant display, in which varieties of *Odontoglossum crispum* were largely made use of. Towards the top of the group were some excellent plants of *Laelia purpurata*, *Cattleya Mossiae*, *Odontoglossums*, *Cymbidium lowianum*, &c., and such good things as *Cattleya Warneri*, *C. granulosa*, *Cypripedium swianianum*, *Laelia Latona*, *L. cinnabarina*, *Lycaste aromatica*, and *Oncidium gardenianum* were remarked. Worthy of special note also were *Odontoglossum lochristiense*, *O. Adriane*, and *Cattleya Mendelii*.

Mr. John Russell, The Nurseries, Richmond, Surrey, displayed a group of stove plants that he grows and exhibits so well. Many handsome *Aralias*, *Alocasias*, *Caladiums*,

Pandanus, *Begonias*, *Phrynium*, *Crotons*, and *Acalyphas* were included in this notable group. *Dracenas*, *Cocos*, *Aranarias*, &c., formed the background, and *Caladium argyrites* formed an extremely pretty edging. Mr. Russell exhibited three plants that are worthy of special note, viz., *Dimorphanthus argenteus marginatus variegatus*, *Cupressus erecta nana*, and *Elagnus pungens anrea*. *Dracena Guilloylei* was also very fine.

Messrs. Kent and Brydon, Darlington, exhibited a miscellaneous collection of shrubs and other plants. The Azaleas were very bright, and a free use of Acers, some splendid Malmaison Carnations, *Hydrangeas*, *Saxifraga pyramidalis*, *Verbena Ellen Willmott*, and numerous other plants made up a pleasing display.

Mr. J. Wood, Hardy Plant Club, Kirkstall, Leeds, exhibited a collection of most interesting rock and alpine plants, arranged on a miniature rock garden erected in one of the tents. All the plants were in flower, and there were many who lingered around this exhibit charmed with the beauty of these tiny gems. We specially remarked some splendid clumps of *Lithospermum prostratum*, the lovely *Vilca pedata bicolor*, *Iris verna*, *I. cristata*, *Erigeron Roylei*, *Dryas Drummondii*, *Saxifraga Cottleodoni* pyramidalis (true), *Saxifraga Zimmereri*, *Androsace foliosa*, *Cypripedium acaule*, *Helianthemum rubrum* (very pretty), *Silene pusilla*, *Veronica prostrata nana*, the beautiful *Ranondia pyrenaica alba*, and *Myosotis Rehsteineri*, all of which are plants of particular interest.

Messrs. Blackmore and Langdon, Twerton Hill Nursery, Bath, had a lovely stand of tuberous *Begonias*; indeed, there were many who expressed the opinion that finer ones had rarely been exhibited. There were both double and single varieties in quantity, and of the former conspicuously handsome were Mr. S. Pope (large Picotee), Mr. F. W. Sinnock (brilliant scarlet), *Masterpiece* (rich rosy crimson), *Seagull* (white), *Lady Cromer* (white), *Ida* (salmon frilled), and *Magnificent* (large salmon); of singles unusually good were *The Queen* (white with carmine edge), *Yellow Queen*, *Grand Duke of Hesse* (vermillion), and *Princess Henry of Battenberg* (white tipped with rose). Messrs. Blackmore and Langdon also showed blooms of some new Carnations, and of these we thought *Emperor* (purple) and *Novalty* (purple flaked) worthy of special note.

Mr. Robert Sydenham, Tenby Street, Birmingham, exhibited a beautiful lot of Sweet Peas very tastefully arranged in glasses with *Gypsophila* and Fern. The colours were pure, and such lovely varieties were represented as *Gorgeous*, *Countess of Radnor*, *Prima Donna*, *Lady Mary Currie*, *Navy Blue*, *Her Majesty*, *Blanche Burpee*, *Salopian*, and *Lady Grisel Hamilton*.

Messrs. R. H. Bath, Limited, Wisbech, showed a group of Carnations that was much admired, and included some beautiful sorts, representing a great variety of colour. *Uriah Pike*, *Mrs. Trelawny*, *Nautilus*, *Florizel*, *Horace Hutchinson*, *Jane Seymour*, *Sir Evelyn Wood*, and other good sorts were shown. Messrs. Bath also exhibited a display of hardy flowers, consisting largely of *Pyrethrus*, and these charming early summer flowers were exceedingly well represented. *Poppies*, *Peonies*, *Delphiniums*, and *Violas* were also noticeable in quantity.

Messrs. Richard Smith and Co., Worcester, also contributed a handsome exhibit of hardy flowers, in which *Irises* were largely and splendidly shown, the varieties *Gazelle*, *Sampson*, *Anrea*, *Darius*, and others being noticeable. *Linum alpinum*, *Hemerocallis Sieboldii*, *Achillea mongolica*, *Pyrethrus*, and some splendid *Peonies* were in this group. Messrs. Smith also displayed some models of Apples and Pears, very true likenesses.

Messrs. Reamsbottom and Co., Geashill Nurseries, King's County, Ireland, exhibited a display of their beautiful Alderborough *Anemones*. They were much admired by the large crowd of visitors, and well might this be the case, for not only are the flowers exceedingly pretty in themselves, comprising as they do so many shades of colour, but they were also arranged with much taste and skill, with a proper regard for colour harmony.

Rustic table decorations were exhibited by Messrs. W. Edwards and Son, Woodthorpe Drive, Sherwood.

Messrs. W. and J. Brown, florists, Stamford, had an exhibit of *Heliotropes*, *Geranium Fire Dragon*, *Oenotheras*, &c. A certificate was given to *Heliotrope Lord Roberts*, exhibited by Messrs. Brown.

Mr. Robert Sydenham, Tenby Street, Birmingham, exhibited some very pretty silver rustic ware for table decorations.

A collection of hybrid *Irises*, raised and exhibited by Mr. George Yeld, Clifton Cottage, York, contained several beautiful sorts.

PLANTS.

For a group of miscellaneous plants, Mr. J. S. Sharpe, Valley Nurseries, Almondbury, Huddersfield, won the first prize with an arrangement that was elegant and graceful. There were large *Kentias* at the back of the group, and towards the front was a mound crested with a large plant of *Cocos weddelliana*, and richly furnished with *Orchids* in flower. The groundwork of the group consisted of miscellaneous plants, such as *Crotons*, *Dracenas*, *Caladiums*, *Ferns*, &c., while rising from this were taller ones of *Abutilon Savitii* (these were splendid, quite 10 feet high), *Phyllanthus*, *Crotons*, *Lilies*, *Lygodium*, &c. Towards the edge of the group were clumps of *Lily* of the Valley, *Strobilanthes*, small and splendidly coloured *Crotons*, *Selaginellas*, &c. *Jas. Blacker*, Esq., Thorpe Villas, Selby (gardener, Mr. W. Curtis), was second with a very similar though not so bright an arrangement. The large *Crotons* were well coloured, and the *Alocasias* and *Anthuriums* were very good. E. B. Faber, Esq., M.P., Belvedere, Harrogate (gardener, Mr. W. Townsend), was third with a handsome group, but the tall columnar-like plants were too regularly and systematically placed; the *Acalyphas* were very fine, but the whole arrangement, though bright, reminded one too much of a number of floral pillars. Mr. W. Vause, florist, Leamington Spa, was fourth with a somewhat sombre group that lacked boldness.

For twelve stove or greenhouse plants in bloom, Mr. J.

Cypher, Queen's Road Nurseries, Cheltenham, won the first prize with, as usual, magnificent specimens. *Pimelia Hendersonii*, *Erica fairana*, *Bougainvillea sandariana*, *Hederoma tulipifera* were perhaps the finest; Mr. W. Vause, Leamington, was second, *E. ventricosa grandiflora*, *Aphelexis macrantha rosea* being very good; Colonel Harrison Broadley, Welton House, Hull (gardener, Mr. Charles Lawton), was third, showing well *Erica lindleyana* and *Vinca oculata alba*.

For six stove or greenhouse plants in bloom, Mr. Cypher was again first, his best specimens being *Erica ventricosa magnifica*, *Franciscea eximia*, *Dracophyllum gracile*, and *Bougainvillea glabra*; Mr. W. Vause, Leamington, was second with smaller plants.

For six stove or greenhouse plants in bloom (pots not exceeding 10 inches diameter), amateurs, Colonel Harrison Broadley (gardener, Mr. C. Lawton), was first, and T. M. Lambert, Esq., Beechlands, The Mount, York (gardener, Mr. John Vear), was second.

Mr. Cypher was first for three stove or greenhouse plants in bloom; Colonel Harrison Broadley, second; and Messrs. R. Simpson and Son, New Lane, Selby, third.

Mr. Cypher also won the first prize for a single specimen stove plant in bloom, with a grand *Bougainvillea Cypheri*; Mr. Vause was second with *Anthurium schertzerianum*; and Mrs. Tetley, Fox Hill, Westwood, Leeds (gardener, Mr. Isaac Eastwood), third, with *Stephanotis floribunda*.

Mr. Cypher again won for a single specimen greenhouse plant in bloom, showing *Dracophyllum gracile*; Mr. Vause was second with *Azalea Mrs. Carter* (very finely flowered); and Mr. F. Styant, Rawcliffe Lane, Clifton, York, was third.

For six ornamental fine foliage or variegated plants, Mr. J. Cypher won, showing splendid specimens of *Latania borbonica*, *Kentia anstralis*, *K. belmoreana*, *Croton montefontaineensis*, &c.; Mr. W. Vause was second; and Messrs. R. Simpson and Son third.

Mr. Cypher won the first prize for three ornamental fine foliage or variegated plants, with *Croton Queen Victoria* as his best; Mr. W. Vause was second, and Colonel Harrison Broadley third.

For a specimen *Azalea* or *Rhododendron*, Mr. W. Vause won with a splendid plant of *Azalea Modèle*; Mr. Cypher was second, and Mr. J. Sunley, Ashleigh, Milford Junction, third.

E. B. Faber, Esq. (gardener, Mr. W. Townsend) was first for three *Crotons*, *Earlness James de Rothschild* being his best plant and a fine one; Messrs. R. Simpson and Son were second.

For a single specimen *Cape Heath*, Mr. Cypher was first with *Erica ventricosa magnifica*.

Mr. George Lee, Baker Street, Bootham, York, won the first prize for six specimen *Colouses* (distinct), and splendid plants they were; Mrs. Tetley was second.

Mr. S. Hardcastle, Bishop Wilton, near York, won the premier prize for a collection of twenty alpine and herbaceous plants.

FERNS.

For six exotic Ferns, Mrs. Tetley, Fox Hill, Westwood, won the first prize, with excellent plants; and the Rev. G. Yeats, Heworth Vicarage, York (gardener, Mr. J. Snowden), was second.

In the class for three exotic Ferns the names of these two prize winners were reversed.

For ten hardy Ferns, distinct, Messrs. R. Simpson and Son were first, and Mr. J. Nicholson, Heworth Green, York, was second.

For six hardy Ferns, distinct, Mr. Nicholson was first, Messrs. Simpson second, and the Rev. G. Yeats third.

CARNATIONS.

For a group of Carnations, Mr. J. P. Leadbetter, gardener to A. Wilson, Esq., Tranby Croft, Hull, was a good first with a most beautiful lot of Malmaisons; Mr. J. Roberts, gardener to the Duke of Portland, Welbeck Abbey, won the second prize.

GLOXINIAS.

For a group of *Gloxinias*, T. M. Lambert, Esq., was first with very well-bloomed plants, Mrs. Tetley being second, and H. E. Leatham, Esq., third.

ROSES.

Mr. J. D. Hutchinson, Kirby Moorside, was first for a collection of pot Roses, showing well-developed plants; Mrs. Tetley was second, and Mr. H. Pybus third.

For six distinct pot Roses, Mr. John Wragge, Burton Lane, York, won, and the second and third prizes fell respectively to Mrs. Tetley and Mrs. Bennington.

Messrs. Walshaw and Son, Scarborough, were given the first prize for a group of *Cannas*, their plants making a bright display.

ORCHIDS.

Mr. J. Cypher won the first prize for a table of Orchids, 12 feet by 5 feet, with a pretty display. Well-bloomed plants of *Odontoglossums*, *Oncidiums*, &c., were at the back, and below them were arranged small masses of *Cattleya Mossiae*, *Miltonia vexillaria*, *Odontoglossums*, &c. *Oncidium papilio*, various *Cypripediums*, *Dendrobiums*, and *Masdevallias* were also nicely arranged throughout. Mr. John Robson, Bowden Nurseries, Altrincham, was second with an exhibit hardly so elegant in appearance. *Laelia purpurata*, *Cattleya Mossiae*, various *Oncidiums* and *Odontoglossums* gave some good colour upon too heavy a setting of *Asparagus*.

Mr. Cypher was first for ten Orchids in bloom, his best being *Miltonia vexillaria*, *Oncidium marshallianum*, *Epidendrum vitellinum majus*, *Cattleya Warneri*; Mr. J. Robson was again second; W. P. Burkinshaw, Esq., The West Hill, Hestle (gardener, Mr. J. T. Barker), being third.

For six Orchids in bloom, Mr. Cypher also won, showing excellent plants of *Epidendrum prismatocarpum*, *Masdevallia veitchiana*, *Laelia purpurata*, &c.; Mr. J. Robson was second.

For three Orchids in bloom, W. P. Burkinshaw, Esq., was first, and G. Whitehead, Esq., third.

In the amateur's class for six Orchids in bloom, W. P. Burkinshaw, Esq., was first, J. F. Laycock, Esq., second, and Walter Bateman, Esq., third.

For a single specimen Orchid in bloom (amateurs), J. F. Laycock, Esq., won with *Odontoglossum crispum*, Colonel Harrison Broadley being second.

For four Orchids in bloom (amateurs or gentlemen's gardeners, prizes offered by Messrs. J. Backhouse and Son), Colonel Harrison Broadley was first, showing *Lælia purpurata*, Mr. McIndoe being second.

PELARGONIUMS.

These formed one of the most beautiful features of the show, and some excellent plants were exhibited. For fifteen show Pelargoniums, distinct, Mrs. Tetley (gardener, Mr. Isaac Eastwood) was the only exhibitor, and was awarded the first prize. Perhaps the best varieties of those represented by Mr. Eastwood's grand plants were *Mme. Desmoulin* and *Mme. Thibaut*.

For six show Pelargoniums, Mrs. Tetley was again first. Mrs. Tetley also won the first prize in each of the following classes: Three show Pelargoniums, a group of not less than six fancy Pelargoniums (T. B. Oldham, Esq., gardener, Mr. W. Pink, being second in these two classes); twelve zonal or nosegay Pelargoniums (second Mr. H. Pybus), six zonal or nosegay (second Mr. Pybus), six double-flowered Pelargoniums (second Mr. George Lee, third Mr. H. Smith), three double-flowered (second Mr. Pybus, third Miss Wharton), six double-flowered Ivy leaf Pelargoniums (second Mr. H. Pybus), and for three double-flowered Ivy leaf (second Mr. J. W. Clarke). For three zonal or nosegay Pelargoniums Mr. H. Pybus was first, Mrs. Tetley second, and Mr. Clarke third. Thus in ten out of the eleven classes for Pelargoniums Mr. Isaac Eastwood carried off the first prize, a remarkable record.

For a group of tuberous Begonias, Mr. F. Styan won the premier place, Colonel Harrison Broadley being second, and Mr. J. T. Heppell third.

In the class for six Fuchsias, Mr. George Lee was a good first, showing some excellent pyramidal plants; Miss Wharton was second, and Mr. F. Styan third. For three Fuchsias, Mrs. Tetley was placed first, and Miss Wharton second.

The first prize for a group of *Calceolarias* fell to Mrs. Lloyd, Mrs. Bennington being second, and Mr. G. Cottam third.

FLORAL DESIGNS.

For the best exhibit and greatest variety in floral designs, Messrs. W. Artindale and Son, florists, High Street, Sheffield, were first. Their exhibit comprised a harp, cross, crown, horseshoe, &c., as well as bouquets and baskets of flowers. The best of the bouquets was one composed of pink Carnations, and the baskets of yellow Spanish Irises and of mixed Orchids were very charming, as also was the floral anchor of *Cattleyas* arranged upon a base of white flowers. Messrs. R. Simpson and Son, New Lane, Selby, were second; their exhibit, however, was somewhat crowded. Included was a beautifully made cross, composed of *Cattleyas*, *Lilies* of the Valley, *Stephanotis*, *Ferns*, &c. Miss Austey was awarded the third prize.

CUT FLOWERS.

ROSES.

For seventy-two Roses, single blooms, Messrs. R. Harkness and Co., Hitchin, won the first prize with a very good lot, of which the best were *Suzanne Marie Rodocanachi*, *Maréchal Niel*, *White Maman Cochet*, and *Gustave Piganeau*; Mr. J. D. Hutchinson, Kirby Moorside, was second, showing well *Catherine Mermet* and *Comtesse Nadailac*; Mr. George Prince, Longworth, Berks, was third.

Messrs. R. Harkness and Co. were first also in the classes for forty-eight distinct varieties of Roses, for thirty-six, and for twenty-four. Mr. George Prince was second in the last-named class. Messrs. Harkness and Mr. Prince were also first and second respectively for eighteen distinct varieties of Roses.

For a stand of white and yellow blooms, Mr. George Prince won first place with an excellent lot. Messrs. R. Harkness, Hitchin, and Messrs. Harkness and Son, Bedale, following as named.

Mr. W. Hutchinson won premier place for eighteen Roses, distinct (amateurs), a bloom of *Maréchal Niel* being the best, Mrs. Tetley was second, and Mrs. Bennington third.

HARDY FLOWERS.

Messrs. Harkness and Son, Bedale, were given the first prize for a collection of hardy cut flowers. They had arranged a splendid bank of them in great variety. *Eremuri*, *Papaver Prince of Orange*, *Pionies*, *Globe Flowers*, *Irises*, *Pyrethrums*, *Delphiniums*, &c., were all well represented. Messrs. G. Gibson and Co., Leeming Bar, Bedale, were second, and in their display, notably good, were *Tulip Yellow Prince*, *Pyrethrums*, and *Irises*; Messrs. R. Harkness and Co., Hitchin, were third.

For twenty-four bunches of hardy border flowers, Messrs. Harkness and Son, Bedale, were first with a lovely lot, including *Pæonies*, *Pyrethrums*, *Spiræas*, *Polemoniums*, *Trolliuses*, &c.; Mr. G. Cottam, Alma Gardens, Cottingham, was second, and Messrs. G. Gibson and Co. were third.

For twelve bunches of hardy border flowers, Mr. William Hutchinson, Kirby Moorside, won the first prize, Mr. McIndoe the second, and Mr. Leadbetter third.

TABLE DECORATION.

Mr. G. Cottam was placed first for a vase of flowers for the dining table, Mr. George Webster being second, and Mr. W. Vause third.

Messrs. Perkins and Son won for a hand basket of cut flowers, Messrs. Artindale were second, and Mr. Vause third. Messrs. Perkins were also first for a similar basket (Orchids excluded).

The first prize for a single bouquet was gained by Messrs. Perkins with a lovely arrangement consisting of *Phalenopsis*, *Odontoglossums*, *Oncidiums*, &c.; Messrs. Artindale were second with a bouquet of pink Carnations.

FRUITS AND VEGETABLES.

For a decorated table of ripe fruit, Mr. Goodacre, Elvaston Castle Gardens, was first, gaining ninety-six points out of a

possible 136. The decoration was extremely pretty, the glasses along the centre of the table being filled with *Odontoglossum crispum*, *Masdevallia harr yana*, *Heuchera sanguinea*, *Asparagus*, &c., an arrangement which proved bright and effective. The Grapes shown were Black Hamburg and Foster's Seedling, and there were Strawberry Royal Sovereign, Nectarine Lord Napier, Melons Blenheim Orange and Monarch, Figs Brown Turkey and Brunswick, and Peach Royal George, all very good. Mr. McIndoe, Hutton Hall Gardens, Guisborough, was second with an exhibit that gained seventy-five points. The flower vases were filled with *Clerodendron fallax*, *Dendrobium*, *Odontoglossums*, grasses, &c., and there were small glasses in which were placed *Cattleya* blooms. Mr. McIndoe's Grapes Black Hamburg and Golden Champion were very good, as also were the dishes of Plums Purple Imperial and Early Transparent Gage, Peach Grosse Mignonne, Nectarine Early Rivers', Melons Best of All and a Queen Pine. Mr. C. E. Simpson, Hunsess Row, Scarborough, was third with seventy-two points. The table, which was decorated with Orchids and Poppies chiefly, had a somewhat bare appearance. The Plums, Cherries, and Nectarines were good.

For a collection of fruits (six kinds) Mr. J. C. McPherson, gardener to the Earl of Londesborough, won the first prize. The Black Hamburg Grapes were excellent, although the Muscats were green. Melon Frogmore Scarlet, Nectarine Lord Napier, and Peach Royal George were of good quality; Mr. McIndoe was second, his best dishes being Early Rivers' Nectarine, Grosse Mignonne Peach, and Melon Best of All.

For a collection of fruits (four kinds) Mr. McPherson was again first. Particularly good were Nectarine Early Rivers and a Melon Frogmore Seedling × Royal Jubilee; Mr. John Easter, Nostell Priory Gardens, Wakefield, was second, his Black Hamburg Grapes being good; Mr. McIndoe was third.

Mr. J. Roberts, gardener to the Duke of Portland, Welbeck, was easily first for one Pine-apple, showing Smooth Cayenne; Mr. Thomas Hague was second with a poor Queen.

For three bunches of Black Hamburg Grapes, Mr. McIndoe was first with splendid bunches, good berries and well coloured; Mr. W. Nicholls, gardener to the Right Hon. Lady Beaumont, Carlton Towers, was second with very good Grapes, but the bunches smaller; and Mr. McPherson was third with bunches that somewhat lacked finish; there were several other exhibitors.

Mr. Nicholls won for three bunches of White Grapes with well-finished Buckland Sweetwater, Mr. M. Murchison, gardener to F. B. Grotrian, Esq., Ingmanthorpe Hall, Wetherby, being second with the same variety; and Mr. McIndoe was third, showing Duke of Buccleuch that lacked finish.

Mr. D. Williams, gardener to Earl Feversham, Duncombe Park, Helmsley, was first for six Peaches, showing splendid fruits of Hale's Early; Mr. Roberts, Welbeck Abbey Gardens, was second, showing the same variety; Mr. R. Doe, gardener to Earl Derby, Knowsley Hall, was third; and Mr. Goodacre fourth.

Mr. R. Doe won for six Nectarines with some grand fruits of Early Rivers', splendidly coloured; Mr. J. Doe, gardener to Lord Savile, Rufford Abbey, Notts, was second with fine Lord Napier, and Mr. Goodacre was third.

Again Mr. R. Doe was first for a scarlet fleshed Melon, showing the variety Lord Derby; Mr. McIndoe was second with a large fruit of Scarlet Premier, and Mr. D. Hazelwood, gardener to Colonel Gascoigne, Parlington, Aberford, Leeds, was third.

Mr. R. Doe won also for a green fleshed Melon, showing a fruit of Countess of Derby; Mr. Hazelwood was second with Royal Jubilee, and Mr. McPherson was third.

Mr. Leadbetter won for a white fleshed variety; Mr. McPherson being second, and Mr. McIndoe third.

Mr. Roberts, Welbeck Abbey Gardens, was first for a dish of Figs; Mr. D. Williams second, and Mr. G. E. Thomas third.

Mr. Dawes, Temple Newsam Gardens, won the first prize for a dish of Cherries with a splendid dish of Early Rivers'; Mr. Roberts was second, and Mr. Goodacre third.

For a dish of Strawberries, Mr. R. Doe was first with splendid Royal Sovereign; Mr. W. Chubb, Brodsworth Hall Gardens, Doncaster, being second, and Mr. Goodacre third.

VEGETABLES.

Mr. D. Williams was placed first for a dish of Tomatoes, Mr. W. Nicholls being second, and Mr. Thomas Hague third.

For a collection of vegetables, six distinct varieties (prizes offered by Messrs. Sutton and Sons, Reading), Mr. Beckett, Aldenham House Gardens, was first; Mr. McIndoe second, and Mr. Thomas Hague third.

For a collection of vegetables, six distinct kinds (prizes offered by Messrs. Webb and Sons, Stourbridge), Mr. E. Beckett was again first, and Mr. McIndoe next; Mr. Thomas Hague, who would have had second place, was disqualified.

ANSWERS TO CORRESPONDENTS.

Names of plants.—W. S. Tillett.—The Iris is 1. variegata Chelles, and the white flower is *Achillea monogolia*.—F. B. M., Blackheath.—*Polemonium reptans*.—T. H. A.—*Asclepias fruticosa*.—Rosslyn.—1. The name of the sketched plant is *Tradescantia virginiana*, a native of North America. 2. *Tradescantia virginiana* is perfectly hardy, and may be grown in ordinary garden soil in the herbaceous border or on the rockery. It may be increased by division in early spring or by seeds. 3. *Adiantum trapeziforme*. This should be grown in a moist stove in a mixture of equal parts good fibrous peat and loam to which has been added a quantity of grit and sand. It must never be overpotted, and should always be given perfect drainage. When growth is active copious supplies of water are neces-

sary, reducing the supply in winter when the plants are at rest, but never allowing the balls to become dust dry. Propagate by division, or, better still, from spores. 4. *Davallia bullata* var. *Mariesii*. Grow in the same house as the *Adiantum*.—A. M. S.—Siberian Iris (*I. siberica*).

Vine leaves diseased (J. M., *Dumfriesshire*).—We can trace no indication of the appearance of red spider on the Vine leaf sent for our inspection.

The leaf is well-developed and of good substance, but too young to be subjected to sulphur fumes from heated pipes. We suspect that this has caused the discolouration on the underside of the leaf, although it has much the appearance of what is commonly understood as Vine rust—a form of fungus—an attack from which is generally brought about by the injudicious admittance of currents of cold air. Should it prove to be rust your sulphur fumes will probably have killed it; on the other hand, should it be caused by the fumes, as the Vines are evidently healthy, a change to warmer weather will soon bring about a favourable result.

CYTISUS PRÆCOX

(M.).—This is a beautiful *Cytisus*, and we give a little illustration of it. Several notes have recently appeared in THE GARDEN.

Lilium candidum

falling (C.J. CORNISH).

The *Lilies* sent show no trace of disease.

They appear to have suffered from late frost and cutting winds, and to have been grown in a soil much too poor to support them.

As the plants have been growing in the same place for years it would be best to lift them all and move them, even if only a yard away from the old site. Do this in August, prepare the new site by deep digging, and give a dressing of manure, burying this 6 inches or 8 inches below the bulbs. The bulbs you send are perfectly sound, but bear evidence of a struggle for existence in their thin scales and in the pooriness of growth; from their appearance your garden is a dry one, and it would be well to continue to water them heavily early each year, and again after flowering.



CYTISUS PRÆCOX.

QUESTIONS.

Lupines losing their buds.—Can you inform me the cause of the whole of my *Lupines* losing all their flower buds? The flower stems are fully developed, and then the buds begin to fall off; the plants otherwise remain in good health.—C. L. A.

Does Helleborus altifolius seed?—I would be much obliged if you or any of your readers could tell me whether *Helleborus altifolius*, the giant November flowering Christmas Rose, ever bears seed. The ordinary *Helleborus niger*, of course, seeds freely, but I have been trying in vain for several years to procure seeds of the giant variety. This spring one of my plants produced a few empty capsules, but these have now withered and dropped off. Seedling plants always grow with much more vigour than those which are merely divided, and I am very anxious to increase my stock in this way. Taking all things into consideration, I think the Giant Christmas Rose is one of the best outdoor flowers we possess. It is thoroughly hardy and free-flowering in this climate (S.E. Scotland, 700 feet above sea-level), where the later *Michaelmas Daisies* are useless. With a minimum of protection, such as an inverted wooden box propped up in front on a forked stick, we had these lovely white flowers, faintly flushed with pink, at Christmas time last year with a foot of snow on the ground.—B. M. H., *Berwickshire*.

Destroying moles in flower borders.—I should be most grateful if you or one of your numerous readers could tell me of some expeditious manner of getting rid of moles. I am overrun with them in my flower borders. The ordinary trap seems practically useless. Can I bait them with something that is irresistible to the mole palate, or can I put some poison in their runs?—H. A. PETO,

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THE CORONATION.

WITH all the British people at home and beyond the seas we rejoice in this time of national joy and thankfulness. And it is fitting—at the moment when our King receives the outward emblems of the solemn trust that is laid upon him and the homage of the chiefs among his people, who, according to ancient tradition represent the vast masses of those of lower rank—to remember with loyal gratitude how great a thing a King does for his people merely in the holding of his kingly office.

Those who have the inestimable benefit of quiet homes in this, our beautiful England, who may freely come and go without the glare of publicity or the irksome restraints of a great position whose ceremonial attitude can be but rarely relaxed, should remember how little of this, one of the commonest and truest of life's good things, can be enjoyed by a king. It is well also to remember how long and patiently he has laboured, as Prince of Wales, to fulfil all the public duties and ceremonies that must often have been a weariness, but throughout which he never failed to bear himself with that gracious dignity and kindly tact that gave the impression that what he had in hand was truly a work of pleasure rather than a toil. We also know well how not only the greater Royal duties and vast Imperial interests, but those practical details of national economy that directly touch the welfare of the people are near the heart of the King, as is shown by his unceasing interest in the prosperity of hospitals and the difficult problem of the housing of working people.

Queen Alexandra has long been enthroned in the hearts of the English people, and the thoughts of all are with her in loving thankfulness on the day when, with the King, she will be solemnly anointed and crowned.

TSING I, OR CHEUNG HUE ISLAND.

PROBABLY the majority of the readers of these notes will have some considerable difficulty in finding the name of this island on their atlases, so I might as well give them an idea of its approximate location. It is situated to the north-west of the island of Hong Kong, its nearest point being only four or five miles distant from the latter. From the mainland it is not much more than half a mile. It is one of the islands included in the New

Territory, and leased to Great Britain by the Convention of 1898.

Cheung Hue is about two miles in length and one mile in breadth, and has an area of considerably over 1,000 acres. The island consists of a rugged mountain range, broken into several peaks, the highest of which is 1,000 feet above sea level. These hills are intersected with ravines, and it is in such places that the vegetation is generally most abundant. On the north-east end of the island are two or three small villages, the inhabitants of which obtain a livelihood by agriculture and fishing. There is not much land under cultivation, but considerably more could be utilised for this purpose. The principal crops I noticed when on a visit to the place in July last were Rice, Sweet Potatoes, Ground Nuts, and Jute (*Corchorus capsularis*). A piece of ground had been prepared for the Pine-apples, and as they do very well on the opposite mainland there is no reason why they should not thrive on Cheung Hue Island. Around the villages there were a few small orchards of Litchis (*Nephelium Litchi*), Longnans (*Nephelium Longana*), Peaches, and Pumeloos. The trees were planted in such a way, however, that I should think the crops would be extremely poor. They were so close together that only the tops of the trees got any sunlight, and pruning and manuring appeared to be entirely neglected. The villagers no doubt planted the trees with the idea that they would produce fruit, but how they could be expected to under such conditions I do not know.

The island is well stocked with Pine trees (*Pinus massoniana*), but the majority of these are not more than ten years old. Many of them are, I should say, self-sown, but, unquestionably, the villagers have planted a large proportion. As soon as the trees get a few feet high the lowest branches are cut off for firewood, and this process continues until the trees assume a mop-like appearance and all growth is arrested, and then the woodman's axe completes the destruction. For every tree cut down another is planted—such, at least, in theory, is the method pursued by the Chinese in the south of China; but, without stating that such is actually the case, I may say that many of them certainly replant cleared areas, and in this way a continuous supply of firewood is maintained.

In the neighbourhood of the villages were some fine natural forests, the biggest trees being those of *Machilus rimosa*. *Machilus velutina* was also found there, with several species of *Ficus*, *Pithecolobium lucidum*, *Mallotus cochinchinensis*, *Sterculia lanceolata*, *Aquilaria grandiflora*, *Sapium sebiferum*, *Bischofia javanica*, *Celtis sinensis*, *Eustigma oblongifolium*, *Gleditschia chinensis*, *Gordonia anomala*, and *Heptapleurum octophyllum*. Underneath the shade of the trees I observed *Lygodium scandens*, *L. japonicum*, *Pteris crenata*, *Davallia tenuifolia*, *Nephrodium molle*, *Nephrolepis exaltata*, and *Blechnum*

orientale as representatives of the Ferns. Growing on rocks, in the bed of a small stream which runs through one of the woods, I came across *Lasia heterophylla* in quantity, an interesting Aroid, as it is not found in Hong Kong. There is a specimen of this plant (unnamed) in the herbarium of the Botanical Gardens, found by the Rev. E. M. Bodinier a few years ago in Paimoshan. It is rather curious that it is not found in Hong Kong, as there are many places in the island which are exactly similar to the spot it was found in on Cheung Hue. *Hibiscus tiliaceus*, with its large canary-coloured flowers, with a blotch of purple on the inside of the petals at the base, and *Æigeras majus* were plentiful in places near the sea. A few large trees of *Ficus retusa* were thriving in the vicinity of the villages.

On the hillsides *Melastoma candidum* and *M. sanguineum* were abundant, and both were coming into flower. They are both exceedingly showy species, with flowers of somewhat similar colour and size. *Osbeckia chinensis*, another *Melastoma*, was also met with in long grass. *Pandanus urophyllus*, a stemless species, was observed in shady woods, and *P. fascicularis* was, as usual, plentiful on the lower levels. This latter species is largely used for making hedges in Hong Kong and the neighbourhood, but when left to itself it often forms a small tree about 15 feet high. For hedge making, branches are chopped off and just stuck in the ground, where they readily take root. *Rhaphiolepis indica* and *Rhodomyrtus tomentosa* are two pretty flowering shrubs, which were met with. The *Rhaphiolepis* is somewhat like the Hawthorn, hence the common name of Indian May. The *Rhodomyrtus*, as its name implies, is a rose-coloured Myrtle. *Acanthus ilicifolius*, very appropriately named, was luxuriating in salt water swamps; and on the banks of the fresh water streams *Adina globiflora*, a rubiaceous plant, and *Symplocos spicata* (*Styracée*) were flowering. The *Symplocos* is a sweetly scented shrub about 8 feet or 9 feet high, with oblong acuminate thick leathery leaves on petioles of half an inch, and 3 inches to 5 inches long, with crenate margins, with the upper surface shining and the under dull. The flowers are small and produced in spikes, several together, in the axils of the leaves, and are 3 inches or 4 inches long. In shady places *Ardisia crispa*, *A. pauciflora* and *Alpinia nutans* were quite at home, and *Anisomeles ovata*, a labiate, was growing in a swamp. Encircled around trees *Dalbergia Hanali* looked very pretty, its bright green foliage showing up to distinct advantage against the darker green of the other plants. When this *Dalbergia* gets old very formidable thorns are produced on its wood. *Crinum asiaticum* was found along the shore in considerable quantities in full flower, its large umbels of white flowers being a very pleasing sight.

I read the other day in a book on gardening that *Crinums* were not worth cultivating for

their flowers, as they were produced so sparingly, but I am glad to be able to state that my experience differs from that of the writer of the article. Some time ago I was coming down the Sam Chun River, which forms a part of the northern boundary of the New Territory, and for a few miles *Crinum asiaticum*, *Ecigeras majus*, and *Acanthus ilicifolius* were the most noticeable plants on its banks; and as the *Crinums* were in flower I thought it was one of the finest sights I had seen for many a day. It has been remarked to me that there is nothing in nature to equal a field of red Poppies in flower, and for gorgeousness I suppose there is not. At the same time I think it must be admitted that there are many more beautiful sights.

Many of our hillsides at certain seasons of the year are simply pictures of beauty. When *Rhododendron* (*Azalea*) *indicum* is in bloom, its thousands of flowers dotted about amongst the green foliage of other shrubs render it a sight for any lover of nature to wish to see. The same may be said of the *Melastomas*, *Rhodomyrtus tomentosa*, *Mussaenda pubescens*, and a host of other things. W. J. TUTCHER.

(To be continued.)

NOTES OF THE WEEK.

FORTHCOMING EVENTS.

June 28.—Maidstone Rose Show.

June 30.—Canterbury Rose Show.

July 1.—Southampton Rose Show (two days); Meeting of the National Amateur Gardeners' Association.

July 2.—National Rose Society's Show in the Temple Gardens; Croydon Rose Show; Hanley Horticultural Fête; Hereford and West of England Rose Show; Newcastle-on-Tyne Summer Show (three days); Richmond Horticultural Show; Worshipful Company of Gardeners' dinner, 7.30, Prince's Restaurant.

July 3.—Colchester, Sidcup, and Norwich Rose Shows.

July 4.—National Rose Society's Southern Exhibition at Exeter.

Beaumontia grandiflora.—This handsome climber is too rarely seen in gardens, for when at its best it is one of the most ornamental plants imaginable. It is an Indian species, and has been cultivated for about eighty years. It succeeds particularly well in an intermediate temperature, planted in a border of loam and peat, where it quickly covers a large space, and flowers freely in June. The leaves are thick and leathery, and ovate in shape. The flowers are white, tubular, with a spreading limb, and nearly 4 inches long, while the flowering period extends over a month or six weeks, and there are usually a large number of flowers open at once on well-grown plants. In the Mexican house at Kew a fine plant is in flower. It can be increased by means of cuttings, which may be rooted in sandy soil in a close case.—W. DALLIMORE.

Papaver pilosum.—Of all species of the Poppy none is handsomer than this, either growing or in a cut state. For vase decoration cut a spray with buds as well as opening blossoms. This is the way to see this Poppy at its best, lasting as it does quite fresh for several days, the coral-coloured blooms light up so well, too, at night. As a border plant this Poppy has few equals in the month of June. It is one of the easiest to increase. Every scrap of growth with a root attached will make a display later on if shaded from bright sun until new roots are formed.—E. M.

The yellow-flowered Pæony.—This plant first flowered at Kew two years ago, the colour being new to the genus. At the present time the same plant is flowering, and forms one of the most interesting features of the Himalayan

house. The Kew plant was sent to Kew from the Paris Botanic Garden in 1898 several plants having been received in Paris from Western China. Its correct name is *Pæonia lutea*, and when out of flower it strongly resembles *P. moutan*. The flowers are small, about 3 inches across, with deep golden yellow petals and stamens. It is of very slow growth, increasing in height only an inch or two annually. At Kew it has not been tried out of doors, but grows without fire-heat.

National Rose Society.—The Dean of Rochester will open the National Rose Society's Show at noon on July 2.—EDWARD MAWLEY, *Hon. Sec.*

The great Coronation Rose and flower show at Holland House.

This, the most important horticultural exhibition of the year, took place on Tuesday and Wednesday last, and, by kind permission of the Earl and Countess of Ilchester, was held in the grounds adjoining Holland House, Kensington. Five large tents accommodated the exhibits, and they contained an unique display of plants, flowers, and fruits. The fact of the exhibitors having plenty of space in which to arrange their displays had a marked effect upon the appearance of the groups. They were altogether more artistic than is usually the case. By reason of the extraordinary late season the classes for cut Roses were not keenly contested. The deficiency in this respect was, however, more than compensated for by the magnificent groups of plants, that were exhibited for the most part by nurserymen. Not only were the tents well filled, but out of doors were arranged several groups of hardy trees and shrubs, remarkable either for the beauty of their flowers or foliage. Prominent amongst these was a display of clipped Yews and Box trees, extending the full length of one tent, from Messrs. Cutbush and Son, Highbate, N. This collection contained many specimens of remarkable shape. The Box trees were a very pretty green, and one could notice excellent representations of arm-chairs, baskets, ships, wheelbarrows, &c. Prominent at the back of the group were Yews in the shape of peacocks, spirals, &c.; all the plants were growing in tubs. Messrs. J. Cheal and Sons, Crawley, Sussex, displayed an attractive bank of shrubs in considerable variety; Messrs. T. Cripps and Son, Tunbridge Wells, were represented by a large and handsome group of Japanese Maples, and Messrs. John Laing and Sons, Forest Hill, showed a bright lot of hardy flowering shrubs. Japanese Maples in quantity and excellent variety, together with Liliums, &c., were sent by Messrs. Fromow, Chiswick, and a pretty display was made by Messrs. James Veitch and Sons, Limited, Chelsea, with a large group of hybrid *Aquilegias* and spikes of *Eremurus*, these being surrounded by Bamboos in tubs. Mr. Russell, Richmond, also arranged an attractive group of miscellaneous shrubs out of doors. Messrs. Sutton and Sons, Reading, had a charming exhibit of *Gloxinias*, tastefully arranged, and forming a very pretty mound of flowers and greenery. They were protected by a large glass stand, and this again was under a canvas covering, so that the many beautiful varieties of these flowers were seen at their very best. In the first tent Mr. Amos Perry, Winchmore Hill, had a delightful lot of hardy flowers, and an interesting collection of water plants, including all the best *Nymphaeas*; and Messrs. Wallace, of Colchester, displayed a beautiful group of *Lilies*, *Irises* in great variety, hardy *Orchids*, *Sparaxis*, and a host of other plants. From Messrs. Dobbie and Co., Rothesay, N.B., came a bright and pretty display of cut *Pansies* and *Violas*, and a charming lot of hybrid *Aquilegia* flowers arranged in glasses. Messrs. Blackmore and Langdon, Bath, showed a group of finely grown tuberous *Begonias*; Messrs. Cutbush made quite a mass of flower with a new white *Anemone*-flowered *Marguerite* called *Coronation*; and Messrs. Jones and Son, Shrewsbury, had a pretty exhibit of Sweet Peas, Spanish and other *Irises*. An extensive display of hardy flowers was set up by Messrs. T. S. Ware, Limited, Feltham, and by Messrs. George Jackman and Son, Woking; while Messrs. Reamsbottom and Co., Geashill, King's County, showed their

lovely Aldeborough strain of *Anemones*. Hardy flowers were largely shown by Messrs. Paul and Son, Cheshunt, and also by M. Maurice Prichard, Christchurch, Hants, and Mr. A. W. Wade, Colchester. In the next tent, Messrs. Paul and Son, Cheshunt, had a lovely group of standard and dwarf *Roses*. Mr. Martin Smith arranged a display of *Malmaison* and other *Carnations* that included some remarkably beautiful varieties, and Mr. W. Icton, Putney, exhibited a charming bank of *Lilies* of the Valley, *Liliums*, and *Palms*. Mr. George Bunyard, Maidstone, showed fruit trees in pots, dishes of *Cherries* and *Apples*, as well as *Rhododendrons* and hardy flowers. An attractive group of *Begonias* was shown by Messrs. Peed and Son, West Norwood. Mr. George Prince, Longworth, Berks, made a pretty display with cut *Roses*, and Messrs. Cannell and Sons, Swanley, exhibited the brilliant *Cannas* they grow so well. Messrs. Cutbush and Son had a magnificent group of *Carnations*, consisting of splendidly grown plants, and Messrs. Rivers and Son, Sawbridge-worth, exhibited their unique fruit trees in pots. Some of the *Cherry* trees are wonderful specimens, and all are bearing good crops. The exhibit from Messrs. Fisher, Son, and Sibray, Handsworth, Yorks, took the form of a group of stove plants. It was quite one of the best arranged displays we have seen, and the plants comprised were unusually choice and well grown. Mr. James Cypher, Cheltenham, also exhibited a group of miscellaneous stove plants, that included many good specimens, and was of distinct and good arrangement. Messrs. John Waterer, Limited, Bagshot, showed a delightful group of *Rhododendrons*, that included some beautiful sorts, notably *Lady Clementine Walsh*, blush, with lemon blotch; and *Marchioness of Tweedale*, rich rose, with yellow blotch, both new. Fancy and Ivy-leaved *Pelargoniums* were shown by Mr. H. J. Jones, Lewisham; a splendid lot of *Begonias* was sent by Messrs. B. R. Davis, Yeovil; and Messrs. Cannell displayed an extensive collection of *Aquilegia* flowers. Messrs. Veitch, Chelsea, exhibited a grand collection of stove plants and choice flowering plants; Messrs. Hugh Low and Co. showed *Hydrangeas*, *Liliums*, *Heaths*, &c.; and a choice display of *Gloxinias*, and *Lilies* of the Valley was made by Messrs. James Carter and Co., High Holborn. Messrs. Barr and Sons, King Street, Covent Garden, exhibited a beautiful and extensive gathering of hardy flowers, filling one side of a large tent. The *Irises*, *Pæonies*, *Poppies*, and innumerable others were grand. Messrs. Kelway and Son, Langport, showed some magnificent varieties of *Pæonies*, both single and double, also *Delphiniums*, and an excellent lot of Sweet Peas was displayed by Mr. Robert Sydenham, Tenby Street, Birmingham. Mr. W. J. Godfrey, Exmouth, showed *Oriental Poppies*; Messrs. John Laing and Sons, hardy plants and cut flowers, *Begonias*, *Gloxinias*, &c. A very bright exhibit of cut flowers, chiefly Spanish *Irises*, came from Messrs. B. S. Williams, Holloway, and Messrs. Carter and Co. displayed *Pigmy Trees*, hardy flowers, a miniature rockery of *Alpine* plants, a collection of vegetables, &c. There were some grand displays of *Orchids*, notably those from Messrs. Sander and Co., St. Albans, which included many lovely things; Messrs. Charlesworth and Co., Heaton, Bradford, also very bright; Messrs. Stanley, Ashton and Co., Southgate; Messrs. Hugh Low and Co., Enfield; Messrs. Cowan, Gateacre, Liverpool; Jeremiah Colman, Esq., Gattopark, Reigate; and Sir Frederick Wigan, Bart. Messrs. Sander and Co. also exhibited a collection of remarkably fine stove plants, and these were also shown by Jeremiah Colman, Esq. Mr. H. B. May showed a group of well grown plants of Ivy-leaved and zonal *Pelargoniums*, and Messrs. Wood and Son, Wood Green, displayed their *Coronation* baskets, which, filled with flowers, were very effective. Messrs. Barr and Sons sent a collection of *pigmy trees*; Mr. S. Mortimer showed some fine *Melons*, *Tomatoes*, and *Cucumbers*; Messrs. R. Veitch, of Exeter, several new plants; the Misses Hopkins, hardy plants; and Mr. Percy Waterer, Sweet Peas. We shall give a full report of this exhibition in our next issue.

Early-flowering Chrysanthemum Mme. Marie Masse and its sports.

—Much has been written of late with regard to this interesting family and of the many really first-rate early-flowering Chrysanthemums in cultivation, those represented by the above are the best. In looking through the collection of varieties which blossom in September and early October the plants of Mme. Marie Masse and its sports appeared to stand out more distinct than all others. These varieties have often been described as ideal border Chrysanthemums, and they may fairly lay claim to that distinction. The growth is robust, branching, and flowers are produced in profusion. A point, too, often overlooked by admirers of these autumn-flowering plants is the splendid length of foot-stalk which each plant without disbudbing develops. A plant which has flowers in a closely packed cluster, with short flower-stalks, can never be regarded with the same favour as one which develops its blossoms on long foot-stalks in a natural way. All the members of this family of early-flowering Chrysanthemums are alike in this respect, and for this reason each flower may be used in a cut state with little or no previous disbudbing. Small pieces planted out at this comparatively late period will quickly make charming specimens. Mme. Marie Masse, Ralph Curtis, Crimson Marie Masse, Rabbie Burns, and Horace Martin also belong to this group.—D. B. CRANE.

The business of the late Mr. William Bull.—In future the business will be carried on by Mr. William and Mr. Edward Bull, under the style of William Bull and Sons. As is so well known, the address of the nursery is 536, King's Road, Chelsea, London, S.W.

Australian Raspberries.—The first consignment of Raspberries for jam making from Australia has been condemned on arrival at Liverpool. Defective packing was the explanation given at the meeting of the Health Committee. The fruit broke loose when at sea, and eleven tons had to be destroyed. The hope was expressed that the failure of their first venture would not deter the Colonists from exporting this fruit.

Primula imperialis.—Some eleven years ago great attention was directed to this Primula, then flowering at Kew, for though known to botanists for a long time it had not till then flowered in this country. Since that period I have met with it only as isolated plants, hence was agreeably surprised to see a fine group of it associated with its new ally (*P. japonica*) at the Temple show. The plants were in company with Messrs. Veitch's Bamboos, and were also from that well-known Chelsea firm. The general aspect of the plant, in leafage, sturdy flower-stalk, and whorled arrangement of the blossoms is much like that of *P. japonica*, the most marked distinguishing feature, and that a prominent one, being the rich golden colour of its flowers. *Primula imperialis* is a native of the highest parts of some of the mountains of Java, and numerous attempts were made to introduce it into cultivation before any of them were successful. Before the plant flowered at Kew I received several consignments of seeds, but none of them grew; then from one small packet I obtained about fifty plants, but before they attained flowering size those at Kew had bloomed. By some means or other this *Primula* has been confounded with the Himalayan *P. prolifera*, an altogether inferior plant, which was figured in the *Botanical Magazine* in 1884 as *P. imperialis*.—H. P.

The Cambridge Botanic Garden Syndicate report.

The annual report has just reached us, and we take from it the following interesting particulars:—During the year 1901, 999 plants, 3,307 bulbs, and 3,305 packets of seeds have been received. Contributions have been received from the principal botanic gardens of the world,

and a return has been made to most of them, 1,246 plants and 4,607 packets of seeds having been distributed. Among the more interesting plants that have been received during the year are *Viscum cruciatum* (*Bot. Mag.* tab. 7828), the Spanish Syrian and Moroccan red-berried Mistletoe; *Eucalyptus scicifolia* (*Bot. Mag.* tab. 7697); *Heliophila scandens* (*Bot. Mag.* tab. 7668), remarkable as a climbing Crucifer; *Streptocarpus Armitagei*, Bak. fil. and S. Moorei, sp. nov. (*Journ. Bot.* 1901, page 262); *Abies arizonica* var. *argentea*, noticeable on account of its silvery and exceptionally corky bark; *Artocarpus incisa*, the Bread-fruit Tree; *Cassytha capensis*, a parasite of similar habit to *Cuscuta*, of the Nat. Order Lauraceæ; *Antiaris toxicaria*, the Upas Tree; *Quercus tinctoria*, the North American Oak, which yields Quercitron bark, used for dyeing yellow; *Eremurus Olgae* × *Bungei*, hybrid raised by Professor Sir Michael Foster; *Bryophyllum crenatum*, from Central Madagascar; *Neobenthamia gracilis*, "a very singular terrestrial Orchid differing much in habit from any hitherto described"; *Kniphofia multiflora* (*Bot. Mag.* tab. 7832), exceptional on account of its erect flowers; *Michauxia Tchihatcheffii* (*Bot. Mag.* tab. 7742), a magnificent campanulaceous biennial from the Cilician Taurus; *Lilium sulphureum* (*Bot. Mag.* tab. 7257), a comparatively new Lily from Burmah; *Pæonia obovata*, a long-desired species from Eastern Asia; also seedlings of the famous weeping Oak at Moccas Court; "many of its branches are 30 feet long, and no thicker in any part of this length than a common rope; this tree transmits its weeping character in greater or less degree to all its seedlings." (Darwin, "Animals and Plants under Domestication," vol. i., page 461.) Among the plants that have flowered, and have been, or will be published from Cambridge material, are *Aloe oligospila* (*Bot. Mag.* tab. 7834), a new species raised from seeds collected by Dr. Schweinfurth in Abyssinia and received from the Zürich Botanic Garden; *A. Camperi*, also a new species from the same country, to be published in the *Botanical Magazine*; *Bauhinia yunnanensis* (*Bot. Mag.* tab. 7814), that climbs by means of its numerous side branches, which are coiled like a watch-spring; *Aster Tradescanti* (*Bot. Mag.* tab. 7825), the true Michaelmas Daisy; *Solanum Xanti* (*Bot. Mag.* tab. 7821), remarkable for the extraordinary variation of its leaves, introduced to Cambridge from southern California; *Clematis*

brachiata (*Gard. Chron.*, vol. xxx., page 367), a Cape species; *C. smilacifolia* (*Gard. Chron.*, vol. xxx., page 466), native of Sikkim Himalaya, and possessing large ornamental leaves; *Plectranthus saccatus*, introduced to Cambridge from the Cape (to appear in the *Bot. Mag.*), and *Lobelia tenuior* (*Gard. Chron.*, vol. xxix., page 46). The Gourds on the herbaceous ground were exceptionally fine, and a full-paged plate, prepared from a photograph, formed a supplement to the *Gardeners' Chronicle* of December 21. The groups of hardy *Opuntia*, for some years the finest in the country, have been illustrated in THE GARDEN (vol. lix., page 429) and in the *Gardeners' Chronicle* (vol. xxx., pages 408, 409). The fine old *Asparagus retrofractus* in the temperate house has been illustrated in THE GARDEN. Other plants of interest that have flowered are *Gerbera* "Sir Michael," a fine yellow-flowered variety of *Gerbera Jamesoni*; *Kalanchoe somaliensis* (*Bot. Mag.* tab. 7031), received from Somaliland, a fine white-flowered species; *Acacia farnesiana*, raised from seed collected in the Bight of Benin by the late Miss Mary Kingsley; *Arctotis Gumbletoni* (*Bot. Mag.* tab. 7796), one of the finest of the species; *A. stoechadifolia* (*Gard. Chron.*, vol. xxx., page 109); *Jasminum floribundum* from Somaliland, and some hybrid *Sarracenoias* which were exhibited at a meeting of the scientific committee of the Royal Horticultural Society. The number of specimens supplied for botanical purposes, including those put into spirit, during the year, amounts to nearly 89,000.

BRITISH HOMES AND GARDENS.

HOLLAND HOUSE.

WHEN the long green stretches of Hyde Park brought us to the rural surroundings of Kensington, and to the woods and thickets that bordered the Uxbridge Road, rare interest attached to the old mansion, not only because of its fascinating literary and social memories, but because, to all Londoners,



HOLLAND HOUSE: THE ROSE WALK.

it is the visible type of the country seat of former days. As we pass along the Kensington Road and catch glimpses of it through the trees, the stately old place, we confess, might be neighbour to the country seats of Warwick, Hertford, or Kent. There is a great deal in the decorated pillars and crests, and the windows and gables of the mansion that is eminently typical of Elizabethan and early Stuart times. Sir Walter Cope, who built it about the year 1607, employed as his architect the well-known John Thorpe, who worked at many noblemen's mansions in the shires.

In this way the central block of Holland House was raised, with its flanking turrets, while the wings, and the somewhat unusual arcade which distinguishes the frontage, were added by the husband of his daughter and heiress, Sir Henry Rich, afterwards Earl of Holland. The place was much adorned by its new possessor, who made it a centre of rank and fashion, to which the fops and beauties of the Court of James resorted. In the troubles that followed, the Earl steered his course unskillfully, for he was at various times twice confined in his house by both parties in the struggle, and when he had lost his head as a Cavalier in Palace Yard, Westminster, where he appeared in 1649 in satin doublet and silver-laced cap, the stern horsemen of Fairfax were quartered in his hall. It was but a temporary shadow, however, for, if the gossipers speak truth, when the sour-faced Puritans had set themselves to crush natural enjoyments, the players were used to gather secretly at Holland House for the diversion of the noblemen and gentry, who resorted thither in small numbers.

Many notable people, including the first Earl of Anglesey, Catherine Darnley, Duchess of Buckingham, William Penn, and Shippen, the Jacobite, subsequently lived at Holland House, but it did not gain its fame as a literary centre until Addison married, in 1716, the widow of Edward Rich, Earl of Warwick and Holland. At Holland House Addison entertained many literary and political friends, being Secretary of State, and there, it is believed, he befriended Milton's daughter. From the family of Rich, Earls of Holland and Warwick, the mansion passed by sale to Henry Fox, first Lord Holland of a new creation, the astute and able politician who endeavoured to buy majorities, eloped with the daughter of the Duke of Richmond, and seems to have provided well for himself. Charles James Fox, the more celebrated statesman, was his younger son, but it was in the day of Fox's nephew, the third Lord, at Holland House that the place became famous as the centre of a social and literary coterie. Talleyrand, Lansdowne, Melbourne, Wilberforce, Macaulay, Tom Moore, Byron, and Campbell were among his guests, and he was beloved by all his friends. His house was likened to the home of Socrates, the more so that Xantippe was his lady. It was she who presided at the literary gatherings of which Macaulay has given an excellent picture. She ordered her guests, we read, as a centurion his soldiers. "It is to one, 'Go,' and he goeth; to another, 'Do this,' and it is done; 'ring the bell, Mr. Macaulay'; 'lay down that screen, Mr. Russell, you will spoil it'; 'Mr. Allen, take a candle and show Mr. Cradock the pictures of Bona-

parte." Rogers, whose seat is by Inigo Jones's beautiful gateway in the garden, was the exponent of Holland House, and promised to induct Macaulay, as a neophyte, into its ways.

Such are a few of the memories that linger about the quaint old mansion. Silence seems to have gathered within it, and it stands amid its old gardens retired from the busy world that surges and rumbles without, powerless as yet to invade its solitude. Its builder still walks in the gilt room, ruefully tenancing the scenes of his greatness, and gruesomely carrying in his hand the head which he lost in the Stuart cause. This is the spacious drawing-room over the hall, which extends from front to back of the house, and has prospects of beautifully timbered grounds and delightful gardens on both sides.

The long gallery, known as the library, has memories of Addison, who is pictured to us walking to and fro shaping his essays, and sipping as he went from a glass placed with a bottle of wine at each end of the chamber. The staircase is greatly enriched with carved balusters, pillars, and panelling, and the house bears the true aspect of former times. Its chambers are hung with many pictures by famous masters. In the "Sir Joshua Room" hang several works by Reynolds, and in the yellow drawing-room and the map and print rooms, and elsewhere throughout the house, the walls are lined with choice examples of the Italian, Dutch, Spanish, and English schools. There are portraits of Lady Sarah Lennox, whom George III. would have made a queen, of Moore and Rogers, and many more. There is the table, too, that Addison used, and the collection includes many memorials of Mary Queen of Scots and Napoleon. Varied, therefore, are its interests and charms, and it is to be hoped the day foretold by Sir Walter Scott is far distant when the house and grounds will be swept away for the building of streets and squares.

There is perpetual beauty in the noble trees and gardens that surround it. A delightful alcove behind the house was the beloved resort

of Rogers, and bears an inscription from the hand of the late Lord Holland:

"Here Rogers sat, and here for ever dwell
With me those pleasures that he sang so well."

Here the favoured visitor walks under the spreading trees, or through the quaint, well-kept old-fashioned gardens, remembering the statesmen, wits, and beauties who have traversed the paths before him, for Holland House, now a seat of the Earl of Ilchester, has, indeed, the aspect of a bygone age, though standing within earshot of the din and bustle of the town.

The rare privilege of visiting this beautiful place discloses many surprises. In former days the garden consisted of the large lawn north of the house and the Dutch or Italian garden to the west; on this side also was the shady green alley of large trees, in former days, with the lawn, the site of the famous garden parties of between thirty and forty years ago. In later years a very large addition to the garden has been made towards the north, in ground that was formerly a pasture, bounded on the townward sides by fine trees. Several acres of this are now within the garden, and groves and alleys of flowering shrubs, detached clumps and single specimens on grass, Roses, Lilies, and a large number of good hardy plants, well massed and displayed, show what a gardener of Mr. Dixon's unusual ability can do in a place so much within London that one would have thought that the cultivation of most Roses was impossible and that of the many hardy plants here seen in perfection would have been difficult.

Among the many interests of this new portion is a rock garden well stocked with good plants, and a series of pools connected by rills, in what is known as the Japanese garden, show hardy aquatics grandly grown. Lilies of the best garden kinds are everywhere, Penzance Briars and the free-growing Roses ramp about as they do in the heart of the country, and it is only when one sees the grime of London on the bark of the trees that one can remember that one is still a mile or two within its vast expanse.

A large new Water Lily tank, with central



WALL OF SHRUBBY CLIMBERS AT HOLLAND HOUSE.

jet, accommodates a choice collection of Nymphaeas and stands well on a lawn to the south of the house. The whole place shows in a most instructive and encouraging way what good gardening can achieve in London.

THE KITCHEN GARDEN.

THE EARLY PEA CROP.

LATER this season than usual is the early Pea crop; in our own case, quite a fortnight later than last year, and some kinds will, I fear, be even later still. The backwardness of the plants is readily accounted for in the southern portion of kingdom, as the late frost actually destroyed pods that were just formed and also severely crippled the tops of the plants though, on a south border, under a high wall. I note that the plants that suffered most were the small dwarf kinds. The foliage of the taller section, such as Gradus, Daisy, and Early Giant, was not hurt, but the tender pods just formed suffered badly. I have rarely seen vegetation suffer so severely so late in the season as was the case this year, and, of course, the crop will be poorer through these severe checks during growth. We usually gather our first dishes the last week in May from plants raised under glass and planted out. This year, as previously stated, we are only able to gather the second week in June, and not then so plentifully as we have often done in May. I am aware it is useless to grumble at seasons, and one must make the best of it, but there can be no getting away from the fact that kitchen gardening, as regards the supply of early vegetables, has been most difficult to manage this season. Asparagus was much later than usual, and the useful Spring Cabbage is none too plentiful in many districts, although June is well advanced. Our earliest Pea this year was Sutton's May Queen; this is one of the first to mature, and is always in demand on account of its size and good quality.

The plants were raised in cold frames and planted out, and grown thus they rarely exceed 2 feet in height, but this year, with greater rainfall, the haulm is a few inches higher. Gradus, one of the best Peas the late Mr. Laxton, of Bedford, raised follows very closely on May Queen; it is of large size and crops freely. Although a Marrow Pea, having a large pod and the haulm running to nearly 4 feet, this variety is as early as any smaller kind. This is a great gain, as one gets both size and quality. Of course I would not advise sowing large Marrows in cold wet soils for an early crop, but sown in pots or frames there is no difficulty, and in the warmer parts of the country Gradus should be a great favourite for its earliness. I have referred to Sutton's Early Giant; this very fine Pea is happily named, it bears splendid pods, and, though not quite so early with me as those noted above, is a splendid variety, and invaluable where large supplies are required. It is a much larger Pea than May Queen, but like it is a grand cropper. For some seasons I have grown large quantities of Bountiful to follow the varieties named, and, though not a distinct Marrow, it is far superior to the small round white Peas still grown for first crop. Where many bushels of Peas are needed for a certain date I do not know of a more profitable variety than this, and its moderate haulm makes it more useful in gardens where space is none too plentiful. If the last-named is sown in the open early in the season it comes in just as those raised under glass are getting past their best, and this variety can be sown much earlier than the true Marrow, whilst for heavy soils it is invaluable. Another very good variety that follows those noted is Carter's Daisy; indeed, this soon follows Gradus, and its good qualities are well known. We always sow it under glass for first crop, and grown thus it is about a week or ten days later than May Queen; it is dwarfer than Gradus, but equal in quality, and when sown on a warm border it gives a longer supply than any round Pea, and its quality is better. Other good

early varieties are Harbinger, Empress of India, Chelsea Gem, Veitch's Acme, a promising new variety, and Exonian. G. W.

CABBAGES (WINTER).

THE value of Coleworts for autumn supplies is so well known that there is no need to refer to culture. My note refers more to the season when the Colewort is over in the latter part of the year, and when the early spring supply is not ready. By the term Winter Cabbage I mean such kinds as St. John's Day and Christmas Drumhead, and to these may be added the newer St. Martin, recently sent out by Messrs. Veitch. These kinds turn in for use from December to March, and that is a season when good vegetables are scarce. Sown for winter supplies the varieties named are most serviceable. Another point that must not be overlooked is that the winter varieties are first-rate as regards quality. Having been growing in the autumn months they are without the strong flavour of some of the Brassicas, being closely allied to the tender Colewort, one of the best flavoured vegetables grown, but too tender to stand hard frost, whereas the Winter Cabbages are harder and not so quickly injured; they are short legged and the hearts are well covered by outer leaves. The plants should be got into their growing quarters before midsummer or as early in July as possible in the warmer parts of the country.

G. WYTHES.

ORCHIDS.

ORCHIDS AT GLEBELANDS.

SITUATE within 10 miles of the heart of London, close to a busy railway station, and in the centre of a suburban town, is the residence of J. Gurney Fowler, Esq. From the surroundings one would hardly expect a large and well-kept garden, to say nothing of a really comprehensive and choice collection of Orchids, the condition and quality of which testify to the enthusiasm and keen interest taken in them by the owner. At the time of the writer's visit attention was attracted by a well-grown plant of the very beautiful

Sobralia macrantha alba.—Of all Albino Orchids this is certainly one of the most handsome and probably the largest of them all. The reed-like leafy stems, graceful and ornamental at all seasons of the year, are crowned



THE FLOWER GARDEN AT HOLLAND HOUSE.

by huge snow-white blossoms, and though individually the flowers are rather fugitive, ample compensation is made by their number and the long period during which they are successively produced. There is an indefinable attraction, too, about the blossoms which the more substantial blooms of white Cattleyas, Lælias, &c., fail to evoke. Apart from their size and purity of colour, the flowers of the *Sobralia* are exquisitely modelled, and the lip is so crimped and fluted that one can but intensely admire them.

Cypripedium fowlerianum.—A hybrid derived from *C. harrisianum* superbum crossed with *C. bellatulum*. Compared with the white *Sobralia* this plant presents quite an opposite character and colouring, and yet is so fascinating in its rich markings and bold shell-like contour that it is difficult to say which is the more beautiful of the two. The shape of *C. fowlerianum* might be taken as a model for all *bellatulum* hybrids, so clearly cut and boldly defined are its outlines; the colour is a rich deep maroon-crimson, with darker spots dashed with purple, almost black in its intensity. It may be said here that *Cypripedium* of the *bellatulum* section, *i.e.*, *C. niveum*, *C. concolor*, and *C. Godefroyae* are exceedingly well grown at Glebelands. Quite specimen plants can be shown of the dainty *C. niveum* and *C. concolor*.

The plant of *Cypripedium callosum* Sanderae recently exhibited at the Drill Hall was pointed out still in full beauty. It has eleven growths, and four of its grandly shaped charming blossoms of the purest white striped with emerald green, the lip tinted with soft yellow and green. The variety has been so often described that repetition is needless, but the plant under mention may be cited as a criterion for good culture for all time.

Lælia purpurata russelliana.—A grand specimen of this famous variety is particularly striking. Although one of the oldest varieties known of *Lælia purpurata*, the plant in the Glebelands collection is certainly one of the largest in cultivation, as well as being the best form, carrying numerous spikes of large blossoms, the sepals and petals of which are daintily flushed with rose, while the lip is soft rose, passing to yellow in the throat. It is regrettable that nowadays one so seldom sees really good specimen Orchids with a goodly number of spikes, a sight so familiar to old time exhibitors. Looking at a specimen such as the variety under notice one cannot help remarking how much handsomer the beautiful flowers appear when seen, as here, in a large number surmounting the deep green foliage. However well grown the smaller plant may be, and however fine the flowers, the telling effect of the specimen is lacking in the smaller plant. Comparison is similar to that between a large and a small diamond. Mention on some future occasion may be made of a few of the other many good hybrids and varieties of Orchids brought together at Glebelands. ARGUTUS.

THE WARDIAN CASE.

THE Wardian case is nowadays so familiar an object that we are apt to lose sight of the immense revolution in plant culture which the recognition of the principle involved therein has led to. At the time when Mr. Ward grasped this principle, i.e., that a closed glass case gave an immense control over several vital factors in plant life, an enormous number of plants were perforce confined to their native habitats, since their removal and transport involved drastic changes of temperature and humidity which they could not stand, and hence the attempts of travelling botanists to enrich our home collections were in most cases nugatory. The accidental development, however, of a tiny Fern in a closed bottle inspired Mr. Ward with the idea that more than half the battle would be won if similar conditions of equability could be secured on a larger scale, and it is from this tiny germ of thought that have grown many of the facilities of transport to which we owe the vast extension of our collections of living plants from all parts of the world. For the amateur plant lover the Wardian case, with which may be associated bell-glasses provided with appropriate soil receptacles, should be of far greater use than it really is, since it is the exception rather than the rule to find such a case properly furnished and with the contained plants in proper condition. To this several causes contribute, firstly, the drainage arrangements are apt to be bad, sourness of soil and unhealthy plants resulting inevitably; secondly, insufficient light is given and the plants become drawn and unsightly; thirdly, unsuitable plants are introduced, both as regards constitution and size; and, fourthly, there are frequently too many, the result being a tangled jungle in lieu of a pretty group. We propose therefore to deal with these evils seriatim. To secure proper drainage the soil box should be provided with an outlet pipe with an external tap, and, prior to any soil being put in, the outlet should be carefully covered with concave pieces of broken pot, a good layer of the same being arranged as loosely as possible all over the bottom of the box as well. Upon this layer spread another of mossy fibrous material so as to form a

sort of mat to prevent the soil settling closely down into the drainage layer and choking it. The soil, consisting of a rubbly open compost of loam and peat or leaf-mould in equal portions, with a liberal dash of coarse silver sand, may then be filled in, and is none the worse for a mixture of pieces of free—i.e., porous—stone. Anything, indeed, which will tend to prevent the soil from settling down into a wet impervious mass is good, and watering should be deferred until the plants are in and any little rockwork arrangement on the surface completed. Every time the case is watered the tap below should be opened until all surplus is drawn off, and, this being done, it is clear that with such arrangements as are indicated a stagnant accumulation is an impossibility.

As regards the second point of light, as much direct daylight, but not sunshine, should be afforded as is possible; the case if at a window should stand close against it, a north or easterly aspect being best. At the best there is always a tendency with window plants to get drawn towards the light with some sacrifice of grace and vigour, and the more top light or nearly top light we can afford the less they will suffer in this respect. This really hinges to some extent on our third point, the suitability of the plants grown, which is a very material one indeed. Where it is impossible to provide ample light filmy Ferns and Selaginellas are alone available, and for quite cold culture we suggest the former, especially *Trichomanes radicans*, the Killarney Fern, and one or two native *Hymenophyllums*, *H. tunbridgensis* and *unilaterale*, while if the case be a large one nothing finer can be imagined than a specimen of *Todea superba* as a central object with the others around it. For such a group a rude rockery must be constructed by breaking up the soil into a mound and inserting lumps of sandstone or other porous rock all over the surface. The *Todea* can be simply planted in the centre in the ordinary way, but the others should be tied on to the rock pieces, spreading their running roots or rootstocks over their faces. Mulch then with a little more compost so as to bury the roots, and finally, when all is finished, drench the surface well in such a way as to wash the mulching in, and so expose the rootstocks again to the air. Selaginellas look very pretty for a time, but grow as a rule too freely, and hence, if used, it is better to grow them separately as representative specimens rather than with other plants which they are apt to overrun. Where a good north light is available the same rockery system can be utilised for a group of dwarf or small species of hardy Ferns, all the varieties of the Maidenhair Spleenworts (*Asplenium trichomanes*) doing well if planted in chinks on the slope facing the light. A group of the crested, incised, and other fine varieties of this species would fill a case to great advantage, and, space permitting, there are some charming dwarf Lady Ferns, Male Ferns, and Hart's-tongues which would do capitally as associates. Here, however, a word of warning as to watering may well be interpolated. Never wet the fronds at all is a good rule. Even the filmy Ferns are better without if the case be kept close. The fronds have little or no chance of drying when once wet, and hence any decay is apt to spread. The fourth point means the provision of adequate space at the outset and the removal of some of the plants if they grow too large and shoulder their neighbours too roughly. A crowd of foliage is a mistake; all grace and detail is lost, to say nothing of the weakness engendered by the consequent struggle for light and room. This must be borne in mind when first planting, as it is much better to have the case a little bare for a time and then filled up on healthy lines than to find immediately the plants start growth that they overlap and handicap each other.

In planting there is, of course, room for wide diversity of taste, and much depends upon the space and shape of the case or other receptacle. A very handsome effect may be produced by one bold specimen Fern in the centre of the background, so as to allow its fronds to arch over freely to the front, the soil or rockery in miniature being dotted with dwarf varieties or Selaginellas of the small persuasion. So far we have

treated of the Wardian case on the original Wardian lines, i.e., as maintaining a constantly humid atmosphere. It subserves, however, another purpose—protection from dust and aerial impurities—and hence in sunny windows or exposures, and with a greater provision of air, it may be used to advantage for collections of dwarf Cacti and other drought-loving plants, these being either planted in dry rockeries or inserted in the soil, pot and all, the pots being marked by pieces of stone. A minimum of water and a maximum of light are the two desiderata with plants of this class, while in the winter they must be guarded from frost.

CHAS. T. DRURY, F.L.S., V.M.H.

THE FRUIT GARDEN. THE EARLIEST STRAW- BERRIES.

NORTH AND SOUTH.

IN various parts of the country the Strawberry season differs greatly, for instance at Syon fruits of Royal Sovereign on south borders specially planted for first supplies are ripe quite three weeks in advance of the same variety in Northumberland; the seasons differ, but those in the North, though later, are less injured by spring frosts. It will be seen that earliness is not everything, and I suppose growers who endeavour to get such early fruit must put up with losses in such seasons as the present one. Our earliest Royal Sovereign plants this season were in bloom in the middle of May, and our thermometer registered 12° of frost; indeed, the cold was so severe that it actually blackened French Beans in cold frames, so that it was impossible for the Strawberry bloom to escape. It may be asked—What is the use of growing such early fruit, and where is the gain? Those who have for months been relying on forced fruits, and who need Strawberries in quantity, will be glad to get the earliest fruits possible from the open ground. For years we grew Noble for first supply till the advent of Royal Sovereign, the last-named in my opinion being one of the most useful varieties ever introduced, both for crop and earliness. I recently saw a note that the old Black Prince could not be equalled for earliness, but the fruit cannot be compared in size to the newer introduction. At the same time, I would add Black Prince should not be lost sight of; it is a splendid Strawberry for preserving, and if the fruits are preserved whole and the juice of the Red Currant added whilst cooking it is delicious.

There can be no doubt whatever that for outside culture the earliest Strawberries should be grown on the one-year system (as biennials), but to do this there must be special attention to early runners: it is useless to get runners from plants that have fruited, but from maiden plants, and get them into their fruiting quarters as early as possible. Only this week (June 12) I saw large breadths of Strawberries in exposed places in the North and not a bloom injured, whereas our first bloom was totally destroyed three weeks earlier in the South. But the same advice as concerns earliness and varieties holds good in different localities. I find Royal Sovereign is not grown so largely in the North as it is in the South, but my remarks more concern culture and earliness, and there can be no doubt of the value of young plants for first supplies.

For years we have protected our early Strawberry blossom on south borders, and have always had a good return. This year the severe cold reached the bloom in spite of the care taken. We strain wires at 18 inches from the soil over the plants, and over this at night is placed a thick woollen netting, which is usually sufficient to protect the blossom. Of course plants grown as advised are much earlier than older ones, given ordinary culture, but even when earliness is not an important point size of fruits often is, and I would advise young plants for the production of large fruits. Though my note does not touch upon

culture under glass, I would add few crops are more profitable than Strawberries given cold frame protection, and the plants may either be grown in the frames from the start, that is, grown for one season's fruit, or otherwise. I have found there is always a brisk demand for these fruits at this time of year, that is, when the forced fruits under glass are just over and the early supply in the open air not in. To get fruits from cold frames I have adopted several plans, and I think the one that gave us the greatest return was from runners placed in boxes and grown on like pot Strawberries and placed under glass to fruit early in May. They were wintered in the open, the boxes being placed close together. If the plants are put out when small the frames cannot be used for other purposes. I have seen excellent crops by lifting plants with a good ball and placed in cold frames, but this requires great care, and the plants to be grown in a stiff loam and watered carefully at the start. Few varieties yield a better return than Royal Sovereign if given cold frame culture, but when grown thus early thinning of blooms is a necessity; indeed, this is advisable for very early fruits in warm borders to get the best results, as if the small blossoms are removed the plants will be stronger and better able to finish the remainder of the crop. G. WYTHES.

BRAMLEY'S SEEDLING APPLE.

YOUR correspondent Mr. Owen Thomas (April 5) states that this Apple is more fitted for the orchard than the garden. I find it quite as good in the bush form. The tree shown in the illustration I worked on a seedling stock six years ago. It is planted at the rate of 1,210 to the acre, and last season bore 40lbs. of fruit, several of which weighed over 1lb. each. The stock called Paradise I have discarded, as this may mean anything. The Codlin variety readily takes root in this form, even the old Yorkshire Burnott being better on a seedling stock than on either the so-called English or French Paradise. Probably no other experimentalist in fruit culture is so restricted in ground area, viz., half an acre. The greatest space I can allow my trees is 6 feet, but I am a firm believer in unrestricted root action.

Shobdon.

J. WARD.

NOTES FROM WORCESTER-SHIRE.

IRIS GRAMINEA.—What a delightful species this is! I saw a large mass of it in full bloom at Messrs. R. Smith and Co.'s nursery on the 7th inst. The elegant deep green Rush-like foliage almost hides the flowers, and their charm really remains concealed until they are gathered. It is a decidedly uncommon flower, with its upright purple standards and yellow claw, which is striped at the end with blue. As I stood over the bed I noticed that quite a sweet fragrance was exhaled by the flowers, something akin to a faint scent of *Iris stylosa*. It seems to delight in a moist position where it can get full sunshine. The photograph I send you shows well the character of both flowers and foliage.

Anthemis Biebersteinii.—This is in full beauty as I write, and is quite the most attractive member of the family which I have as yet seen. If it were only for its delightful lacinate silvery foliage it would be well worth growing, but to this is added the striking yellow blossoms, to my mind far finer in every way than those of *Anthemis tinctoria* or its varieties. This is essentially a rock plant, and is certainly an ornament to any rock garden. It dies down in winter, and the chief difficulty in its culture lies in the fact that when the young growths make their appearance in the spring slugs are very prone to graze them completely off unless the plants are well looked after.

Amphicome Emodi.—This very beautiful plant, which hails from high elevations in India, was exhibited by Messrs. R. Smith and Co. at the Temple show. Mr. W. Horsman informs me that it was received by Messrs. Smith from Mr. Irwin Lynch. In appearance the rosy orange

flowers very much resemble those of *Incarvillea Delavayi*, but are neither so bright nor so large. The plant is herbaceous, and although only classed as half-hardy, looks as if it would succeed outside on a warm border, provided it was given the protection of a hand frame during winter. With Messrs. Smith it has proved a free bloomer under glass, but so far they have not yet propagated it. It would be interesting to learn whether any of your readers have tried this plant outdoors.

Lithospermum prostratum and *Arenaria grandiflora* are two plants which group well together in the rock garden. Both bloom profusely at this time of the year, are easily grown, and here, in a fairly moist south position, succeed to perfection.

Incarvillea Delavayi has this year further improved its already good reputation. A nice plant of the dwarf *Incarvillea grandiflora* is the latest addition to my collection, but is not, of course, expected to bloom this year. The leafage I consider differs more from *I. Delavayi* than would appear from the coloured plate of it which was given in THE GARDEN, vol. lvi. In my plant the chief difference is in the terminal leaflets, which, in contrast to *I. Delavayi*, are almost oval.

Aethionema pulchellum is a plant well worth growing, and is now quite a torrent of bright pink flowers where it has been planted in a sunny position. It dislikes shade, and particularly objects to being closely surrounded or overhung by other subjects. Its habit is shrubby, forming a little bush about 18 inches or more high. As a rule it has a prostrate position on rockwork, and its glaucous-foliaged branchlets, when decked with the rose-pink blossoms, prove very attractive.

Veronica pectinata rubra.—Amongst the myriads of varieties now to be found in gardens this is well worthy of consideration. It will soon clothe a rocky bank with its neat pubescent grey foliage, which helps to show off its tiny spikes of reddish pink blossoms to advantage.

Ramondias.—On the north side of my rock garden these are now (June 14) very beautiful. They distinctly prefer to be planted between red sandstone rock to granite, the former retaining more moisture during drying winds. *Ramondia serbica* var. *Nathalie* came into bloom on May 25, and was quite over before *R. pyrenaica* had even unfolded any of its flowers. *R. serbica* is only a day or two earlier than *R. pyrenaica*, but is certainly not so desirable, as its flowers are smaller and less showy. *R. pyrenaica* alba is blooming better than usual, but it is not so free as the type, and seems of slower growth.

Solanum jasminoides.—Your correspondent Mr. S. W. Fitzherbert may be interested to learn that even in this cold district *Solanum jasminoides* thrives, and with a straw protection has come through the winter almost uninjured. I grow it in a warm and sheltered corner against a south wall, most of which is devoted to Peach trees. The wall

is 14 feet in height, and it has now quite reached the top. Although badly lighted, like everything else here, I am hoping to cut some of its flowers early in July.

Kidderminster.

ARTHUR R. GOODWIN.

PRUNING HARDY SHRUBS.

(Continued from page 405.)

GENISTA.—*G. tinctoria* flowers on the young wood, and should be cut back every spring. The other species of *Genista* should not be pruned except to keep them in shape.

Halesia.—These are small trees or large shrubs, and should not be shortened back; but they are improved if the growths are kept thinned out, which should be done after the flowers are past.

Halimodendron.—Requires no pruning.

Hamamelis.—Thin out regularly, as they are very apt to get thick and make weakly growths.

Hedysarum.—This flowers on the young wood, and should be cut back each spring, but not too hard. The growths can also be pegged down to improve the plant, which is apt to get straggly.

Helianthemum.—Cut away all dead flowers and seed-pods after blooming.

Hibiscus.—Thin out in winter, but only shorten the longest shoots.

Hydrangea.—These flower best on young wood, and should be cut down in winter.



BRAMLEY'S SEEDLING APPLE TREE (SIX YEARS OLD).

Hypericum.—These should be cut back fairly hard in early spring, as they all flower on the young growth.

Indigofera.—Cut down every spring, as they flower on the young wood.

Itea.—Keep the growths thinned and cut away all old wood.

Jamesia.—This should be treated as the preceding.

Jasminum.—*J. fruticans* and *J. humile* are shrubs which should be thinned regularly, and *J. nudiflorum* and *J. officinale* are climbers which should be spurred in after flowering.

Kulmia.—Remove seed-pods as soon as the flowers are past.

Kerria.—Cut away the old wood to encourage the young growths, which yield the best flowers.

Laburnum.—These should be thinned after flowering, cutting away the old or weakly wood and shortening any long or straggling shoots.

Lavandula.—Cut away all flower-spikes after they are past.

edum.—Remove seed-pods after flowering.

should be performed in autumn or winter, as they flower practically all the summer.

Lyonia.—Requires no pruning.

Magnolia.—Generally speaking, the *Magnolias* should not be pruned, but any useless or decaying wood should be cut away. Every wound, however small, on a *Magnolia* should be tarred over immediately.

Microglossa.—The solitary shrubby representative of this is *M. albescens*, which should be cut down in winter, as it flowers best on the young wood.

Myrica.—An occasional thinning is sufficient for this genus.

Myricaria.—Flowering on the young wood, this should be cut back every spring.

Neillia.—Thin out every year after flowering is past, cutting back the old wood to strong young shoots.

Neriusia.—This requires the same pruning as *Neillia*.

Notospartium.—Requires no pruning.

Nuttallia.—The single species of this flowers

Peraphyllum.—The solitary hardy species of this should not be pruned or disturbed in any way if it can be avoided.

Pernettya.—These should not be pruned at any time.

(To be continued.)

THE INDOOR GARDEN.

RHODODENDRON PRÆCOX.

ONE of the most useful of the numerous hybrid *Rhododendrons* raised by the late Mr. Isaac Davies in his Ormskirk nurseries is *Rhododendron præcox*. It has only one defect as a shrub for the open air in all except the most favoured portions of the British Isles, namely, its habit of pushing into flower so early as often to be spoilt by frost. When favoured by mild, frostless weather, its flowers in the open in March add a glow to the garden unequalled by any other flowering shrub of early spring, except, perhaps, *Forsythia suspensa*, and it has a glow of a different kind. Nothing in gardening is more exasperating than the destruction of early flowers by frost, and this *Rhododendron* generally gets caught just when its myriads of fat buds are bursting, full of promise for the morrow, but blasted before morning by frost. One must be content to wait and hope for better luck next year, or, better still, determine to save the flowers on the best plants next time by removing them into a glass house to open. The plant is sometimes lifted from the open and planted in an unheated house before the buds are sufficiently expanded to be hurt by cold. The result is often most gratifying. Every bud expands. After flowering, the plant can be replanted in the border outside, and with ordinary care it will be none the worse for its short stay under glass. Of course *R. præcox* is well known as a useful plant for forcing in pots, but the treatment here described is not forcing, and therefore has not that weakening effect which forcing proper always has on shrubs of every kind. Forced *Rhododendrons* generally are much more satisfactory when planted in a properly prepared border as soon as the flowers are over, so that they can recoup themselves by winter. Kept in pots they rarely recover, much less make up for use again.

THE VARIEGATED PINE-APPLE.

HIGHLY coloured and well-grown specimens of this plant (*Ananas sativus variegatus*) are very desirable subjects for the adornment of rooms as well as for hot houses. Like the Pine-apple of commerce, this plant delights in abundance of moist heat, and this ensures a healthy growth. This variety is not such a quick grower as the type, and if the plants can be plunged for a few weeks immediately after repotting in spring in a bed of tan or fermented manure and tree leaves they will commence to form new roots more quickly than they otherwise would. Repot the plants at any time in spring, using clean pots and plenty of well placed drainage. The compost should be of a rough character, with plenty of charcoal and crocks broken small added; a little mortar rubble is a good thing in the soil. The compost should consist of two parts fibrous loam and one part peat, with a few lumps of dried cow manure



RHODODENDRON PRÆCOX IN THE EDINBURGH BOTANIC GARDENS. (From a photograph by Mr. D. S. Fish.)

Lespedeza.—See *Desmodium*, which it much resembles.

Leucothoë.—*L. axillaris* and *L. Catesbæi* flower much better if the old growths are removed and strong young shoots encouraged. The rest of the genus require no pruning.

Leycesteria.—Thin out old growths every spring.

Ligustrum.—*L. ovalifolium* and its golden variety are all the better for being cut down each winter while in a young state. The remainder merely require an occasional thinning.

Liriodendron.—Requires no pruning.

Lonicera.—The shrubby *Loniceras* are nearly all inclined to become very thick and full of weakly shoots if not well looked after. A thinning out should take place after flowering is past. The climbing Honeysuckles should only be pruned sufficiently to keep them within bounds.

Lycium.—These should be served the same as the shrubby *Loniceras*, but the operation

in February, and is improved by a good thinning out of the old wood when blooming is past.

Olearia.—Requires no pruning.

Ononis.—*O. rotundifolia* should be cut down every winter, as it flowers on the young wood. The remaining species flower on the older wood, and need not be touched.

Osmanthus.—These should not be pruned unless a particular shape is desired, when the plants may be clipped with a pair of shears in spring.

Oryococcus.—This is a small creeping genus, allied to *Vaccinium*, and requires no pruning.

Orydendron.—Remove seed-pods.

Paliurus.—This attains the dimensions of a small tree, and should be kept trimmed up for that purpose.

Parrotia.—Thin out in spring after the flowers are past.

Paulownia.—Keep to a single stem to a height of about 8 feet, and then allow it to branch. If used for sub-tropical bedding it should be cut down to the ground every winter.



PRIMULA WULFENIANA (LIFE SIZE).

incorporated. Gradual hardening, by placing in a somewhat cooler structure, must be given before the plants are taken into airy rooms in the home. A sojourn there of a week or two's duration will not then injure them.

H. T. MARTIN.

THE MOUNTAIN PRIMULAS.

(Continued from page 398.)

SAXATILE OR ROCK-LOVING SPECIES.

P. spectabilis (Tratt.) syn. *P. integrifolia* (Tausch non L.), *P. calycina* (Reich.), *P. glaucescens* (Reich.).

P. spectabilis var. *denticulata* (Koch), *P. polliniana* (Mor.), *P. intermedia* (Heg.) and *P. carniolica* (Poll. non Jacq.).—From the Alps of Eastern Austria, between 3,000 feet and 4,000 feet on limestone. A beautiful species near *clusiana* and *glaucescens*, from which it is distinguished by the bright green viscous leaves, dotted and margined with white, and by the bracts being usually shorter than the pedicels. Flowers large, of a fine violet-carmine colour in March and April. Of easy culture in half sun in the joints of calcareous rocks.

P. Steini (Obrist).—Alps of the middle Tyrol, a hybrid, unknown to me, of *minima* and *hirsuta*, more nearly resembling the latter.

P. Sturii (Schott.).—From the Styrian Alps (Reich. "Icones," xvii., t. 60, iii. 67, vi.-vii.) syn. *P. Allionii* (Hanson non Lois.). From the high limestone Alps of the Southern Tyrol, from 3,000 feet to 8,000 feet. A pretty little plant, near *Allionii*, resembling it in its dwarf habit and the small size of its leaves, but clearly distinguished from it by its denticulate translucent leaves (opaque in *Allionii*), by its very obtuse calyx lobes, and by those of the corolla which are bifid. Leaves and calyx are glandular-viscous; the flowers are one or two, upon short peduncles. The corolla is lilac-rose. The plant is only 1 inch or so in height and forms large, flat, dwarf tufts.

This species is by no means easy to grow; it rarely flowers in our gardens either at Geneva or La Linnaea. We have not yet found out how to treat it.

P. venusta (Host).—Figured in Reichenbach's "Icones," t. 53. From the limestone Alps of Carinthia, between 3,000 feet and 4,000 feet. A hybrid of *P. Auricula* and *carniolica*. A pretty plant rather near *P. Arctotis*, but distinguished from it by its rose-coloured, purple, violet or white—never yellow—flower, and by its leaves thinning to the base, regularly serrated and edged with white as in *marginata*. The whole plant is covered with mealy powder, and the corolla has a distinct mealy spot at the throat. It is easily grown in the same way as *Auricula*.

P. Venzoi (Huter) *P. cridatensis* (Gusm.).—A hybrid of *P. wulfeniana* and *tyrolensis*, which I have never succeeded in growing.

P. villosa (Jacq.).—Figured in Reichenbach's "Icones," xvii., t. 66. Granitic Alps of Styria, of Carinthia and Carniola, between 3,000 feet and 4,000 feet. A low-growing species, abundantly viscous-pubescent, without farinaceous powder; leaves obovate-spathulate, obtuse, fairly regularly and finely toothed; petioles very short, capsule as long or slightly longer than the calyx.

It is often confounded with *hirsuta* and *viscosa* in gardens; but *hirsuta* is distinguished from it by the leaves suddenly contracting to the petiole, whereas in *viscosa* the breadth of the leaf narrows down very gradually; the leaves are also narrower and less toothed; the capsule is longer (shorter than the calyx in *hirsuta*), and, above all, it is distinguished by the brown glandular villosity with which it is covered. It differs from *viscosa* (All. non Vill.) by the tube of the corolla being two or three times as long as the calyx (three or four times as long as *viscosa*), by the very short petiole, and by the colour of the flower, which in *viscosa* is violet-lilac. This plant does well with us, but must be kept away from lime, which soon kills it. It likes a rocky joint in half sun, and flowers in March and April.

P. viscosa (All. non Vill.), syn. *P. hirsuta* (Vill. non All.), *P. latifolia* (Lap.), *P. graveolens* (Heget.).—It is found in Reichenbach's "Icones," xvii., t. 57. Alps of the Grisons and of the Mount Cenis, also Piedmontese and Maritime Alps, in granitic rocks from 3,000 feet to 5,000 feet. This plant is well known in gardens under the names *graveolens* and *latifolia*. Like *P. marginata*, it has a thick suffruticose stem sometimes divided, from 4 inches to 6 inches high, making it look like a little shrub. The leaves are broad, obovate, and toothed, glandular-pubescent, ciliated at the edge with glandular hairs; the flowers are numerous, lilac-violet, form-

ing large and handsome bouquets in April and May.

P. vochinensis (Gusm.).—This I received some time since from Gusmus as a hybrid of *wulfeniana* and *minima*, but I have been unable to do anything with it.

P. waldensiana (Reich.).—From Monte Baldo; a hybrid of *P. ciliata* and *spectabilis*, which I have never seen.

P. Wettsteinii (Wiem.).—From the Wiener Schneeberg in Austria; a hybrid of *clusiana* and *minima* which is unknown to me.

P. wulfeniana (Schott), syn. *integrifolia* (Sturm non L.).—From the limestone Alps of Eastern Austria. It is figured by Reichenbach, "Icones," xvii., t. 63. Leaves narrow, slightly glaucous, margined with white from the presence of numerous glandular hairs only to be seen with a magnifying glass; flowers large, one to three on a short stalk; calyx in obtuse divisions, corolla of a fine carmine colour. It flowers abundantly in March and April, and requires limestone rockwork in half sun.

I have stated that the Primulas of the *Auricula* group are essentially saxatile, and require rockwork or the joints of old walls. Nevertheless they may all be grown in pots in porous and spongy soil with plenty of drainage. As a rule they are better not in full sun, but in some half-shady place. Stagnant moisture



PRIMULA VILLOSA (LIFE SIZE).



PRIMULA SPECTABILIS (LIFE SIZE).

is fatal, as they rot easily. They all bloom in spring from March to May, and are increased by division and seed.

Geneva.

H. CORREVON.

(To be continued.)

CORRESPONDENCE.

(The Editor is not responsible for the opinions expressed by correspondents.)

EUCALYPTI—A NOTE FROM SYDNEY.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—I notice a letter by Mr. H. R. Dugmore on page 145 in your issue of March 1. *Eucalyptus Gunnii* is a species which in its glaucous (type) form is confined to the high mountains of Tasmania, Victoria, and New South Wales. It can consequently stand a good deal of frost; but the species in one form or another (it is very variable) is found in all the States except Western Australia, and in some places elevated but a few hundred feet above the sea. Seed from such plants, although still *E. Gunnii*, would produce plants not likely to be hardy in Northern Europe. Most forms of *E. Gunnii* prefer damp, low-lying situations.

E. coccifera and *E. urnigera* are Tasmanian species growing in cold localities; the former grows at a higher elevation than the latter.

E. polyanthemus is chiefly found in New South Wales, and is not capable of standing anything like the cold temperature of the last two species.

The *E. longifolia*, which is synonymous with *E. amygdalina*, is *E. longifolia* (Lindl.). The true species is *E. longifolia* (Lind. and Otto), and is confined to the coastal districts of New South Wales, and hence will not stand much winter cold. The amount of cold that *E. amygdalina* can stand depends upon where the seed was collected, for the species has a very wide range in Australia and Tasmania.

Australia is a very extensive country, and in New South Wales alone we have at least six climatic districts.

Botanic Gardens, Sydney.

J. H. MAIDEN.

THE LONDON DAHLIA UNION.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—It is not my intention to enter into any unseemly personal discussion in your columns re the above union. A recent communication from me was a reply to, and a criticism on, a letter

which Mr. H. A. Needs, always a courteous gentleman, had sent you, and seemed to be a sort of apology from him for forming this so-called union. If I have any quarrel at all, and it is certainly a friendly one, it is rather with those colleagues of the National Dahlia Society, who, whilst yet members of the committee, join in setting up—it is now unhappily made so plain—what purposed to be a rival organisation. What would be said I wonder were a few persons to start a London Rose Union, or a Carnation Union, with established national societies having their homes in London.

Still more, what would be said were members of the executives of such national societies to join and promote these rival organisations? They may plead that trade or personal interests override all considerations of loyalty to the original and national organisation. I do not; but then I am not a trader or a grower. I have been a member of the executive of the Dahlia Society for some two years, and have not during that time heard of any application to hold a second show at the Aquarium or elsewhere. However, that is a small matter. I contend that once allied as an executive official of the National Dahlia Society common loyalty to that body should prevent at once a retention of that position and holding a similar office in connexion with a rival organisation.

A. DEAN.

[This discussion must now close.—ED.]

PLANTING BETWEEN EARLY POTATOES.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—I was pleased to note that such an excellent cultivator as Mr. Beckett does not hesitate to plant such crops as autumn Cauliflowers between rows of early Potatoes, as in many gardens if this were done it would be much better for the Cauliflowers, and the Potatoes would not suffer. I am aware many condemn growing the two crops together, but the advice to keep clear of each other is easily given. Even in my own case, with a large acreage of kitchen garden, we are obliged to do this, as it frequently happens (it is the case this year) that the early Potato crop is late. If the Cauliflowers were left the latter would, by the time the Potatoes were cleared, get drawn and become almost worthless. With early Potatoes given a fair space the Brassicas do little harm, and if planted early they soon get above the haulm, and care then in lifting the Potatoes is very necessary, and the soil they get then moulds up and does good.

This year, unfortunately, the green plants get more room than usual, owing to the frost having cut down the first growth, and this in spite of constant earthing and protecting with litter. In our case frost actually got into cold frames. It is well to note that to wait for such crops to be cleared means weakened seedlings at planting.

G. W. S.

MAY-FLOWERING TULIPS.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—I was glad to see your correspondent's (signed "A. P. H.") words in THE GARDEN of the 14th inst. There is no doubt that what he says of Tulip La Merveille is quite correct. The only two that I know for effect and colour surpassing La Merveille are *T. spathulata aurantiaca* and its maculated form. Unfortunately, however, there is no perfume. Your correspondent is perfectly right in his remarks about *Narbonensis alba* (syn. Sweet Nancy) and *Didieri alba*. The latter, when it gets plentiful enough to grow for market work, will be largely grown on account of its colour and Sweet Pea-like perfume. A few other splendid May-flowering sorts are Leghorn Bonnet, Fairy Queen, Nigrette, The Faun (very beautiful), *Ixioides mauriana*, *maculata reflexa*, Mars, *maculata globosa grandiflora*, Sprenger's Shandon Bells,

and its two sports, Silver Queen and York and Lancaster. Then we have amongst the perfumed sorts Gala Beauty, Emerald Gem, Mrs. Moon (a wonderful Tulip), *gesneriana lutea* and its pale form *pallida*, Firefly, *macrospila*, and last but not least, *vitellina*, with its Almond perfume. I was glad to see the list given by "Philomel" in THE GARDEN, but I should like to have a conference on Tulips, such as we had over Daffodils in 1884.

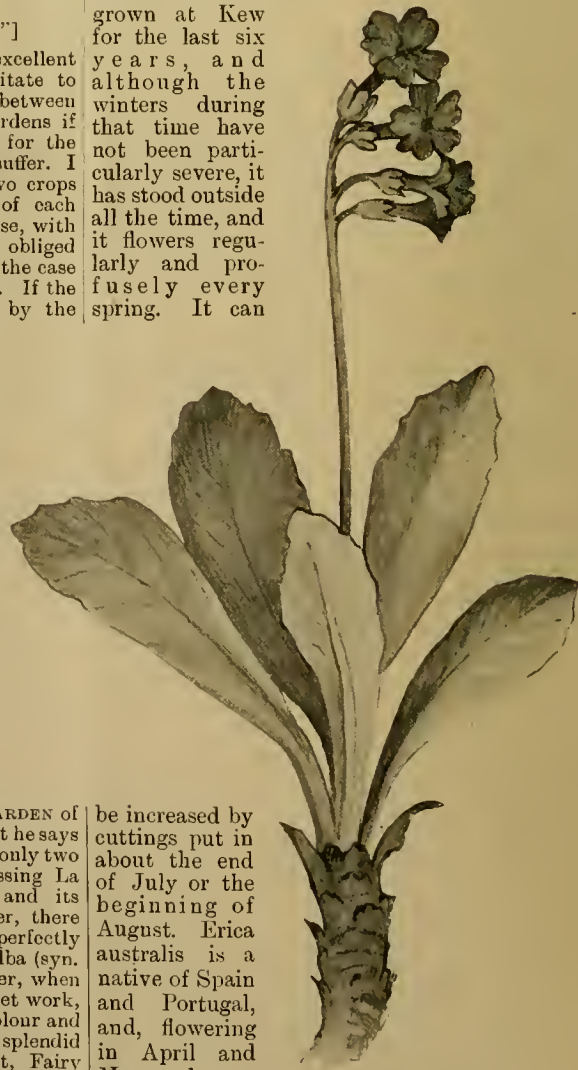
Cork.

W. BAYLOR HARTLAND.

TREES AND SHRUBS FOR ENGLISH GARDENS.

THE HARDY HEATHS.

ONE of the most beautiful of all the Heaths is *E. australis*, and also one of the rarest. Unfortunately, it is not so hardy as the majority. In the southern and western counties, however, it will thrive admirably, withstanding 20° of frost without serious injury, provided it is not too prolonged. It is curious that in spite of its beauty it is but little known even in Cornwall, Devon, and similar localities where it would doubtless thrive to perfection. It has been grown at Kew for the last six years, and although the winters during that time have not been particularly severe, it has stood outside all the time, and it flowers regularly and profusely every spring. It can



PRIMULA VISCOSA (LIFE SIZE).

flowers are of a rich bright rosy red, brighter indeed than those of any other Heath. They are fragrant, pitcher-shaped, and about a quarter of an inch long. The species has been confounded with *E. mediterranea*, which, indeed, often does duty for it, but it is distinguished by having the flowers produced generally four or eight together in terminal clusters. (Those of *E. mediterranea* appear in the leaf axils). For those who have gardens well sheltered or situated in mild localities this Heath is strongly to be recommended. The difficulty at present is to get hold of the right thing. I am glad to know, however, that some trade firms are taking it up. It is said to grow 6 feet to 8 feet high, but I have not seen plants more than half as high.

E. mediterranea.—Of all the taller Heaths this is the one, I think, that deserves to be most freely planted in districts no warmer than the London one. The three preceding species, so beautiful when seen at their best, are more adapted for the southern and western counties. Of sturdier constitution, *E. mediterranea* may be planted in large quantities with a view to producing broad effects. At Kew a group 70 feet across planted three or four years ago already makes a striking mass of purple each spring. The habit of remaining for a long time in full beauty, which is so marked and valuable a character of the Heaths, is possessed to the full extent by this species. It is beautiful from March to May, and is all the more appreciated because the majority of the trees and shrubs that flower at that season have yellow, pink, or white flowers. In the typical *E. mediterranea* the flowers are bright rosy red, but there is a charming white flowered variety (*alba*), another with bluish foliage (*glauca*), and a dwarf one (*nana*). The flowers are borne near the ends of the shoots in the axils of the leaves, and are pitcher-shaped. The name *mediterranea* is misleading, for according to Moggridge, the Mediterranean botanist, it is not a native of that region at all. It is rather of Biscayan origin, and is found in Western France and Spain.

On the boggy heaths of Galway and Mayo a form of this species is found; it is known as *E. mediterranea* var. *hibernica*, and grows 2 feet to 5 feet high. The typical *E. mediterranea* was represented in the Syon Gardens seventy years ago by a specimen 10 feet high. Do any such noble examples remain in the country now?

A variety intermediate between this species and *E. carnea*—probably a hybrid—is known as *E. mediterranea* *hybrida*. It is the earliest of all the hardy Heaths to flower, and is often bright in the New Year. It is, as might be expected, taller than *E. carnea*, but the flowers are very similar, although of scarcely so bright a red. It is one of the most charming of Heaths, and worthy of being planted in large quantities.

E. stricta.—Although not so strikingly beautiful as the Heaths previously mentioned, this species is the hardiest of all the taller Ericas. It may be recommended for inclement districts, where a tall Heath is desired. It grows 5 feet to 6 feet high, and is of erect, sturdy habit. Its leaves are borne in whorls, four to six together; they are deep green, in consequence of which a large mass of plants, with their erect plumose branches, produces a rather noteworthy effect. The species, like so

many Heaths, has a long flowering season. It commences to bloom in June and is at its best in July, but three months later flowers may still be gathered. The flowers are pale purple, and are produced in terminal clusters. *E. stricta* has been in cultivation since 1765, and is a native of South-Western Europe. It is occasionally met with in gardens under the name of *E. ramulosa*.

E. scoparia.—In my experience of Heaths near London this species has proved to be the tallest, for it has during the last few years attained to as much as 9 feet in height. This character gives it a certain distinction; still, when regarded as a flower-bearing plant, it is, I think, the least worthy of the Heaths. The flowers are crowded in the leaf axils in great numbers, but are small and greenish white. The habit of the plant is somewhat straggling and uneven, but the species has the merit of being quite hardy. I have seen its stems split by hard frost on more than one occasion during the last dozen years, but it has never suffered

charming colour, and for two or three months longer they retain their beauty, no matter what weather may occur. So profuse is this plant in its flowers that they literally cover it.

Erica carnea is one of those plants (and there are not a few of them) which, although perfectly well known and quite common, are still not used in gardens so profusely as they ought to be. The majority of our early-flowering plants bear flowers that are either white or yellow, so that the rosy red colour of this *Erica* makes a welcome change. However freely it might be planted it would never weary or be out of place, for its tints, though bright and warm, have not the least suggestion of harshness in them. Statements have recently been published to the effect that *Erica carnea* is a British plant. This idea appears to have originated with Bentham, the botanist, who regarded *E. carnea* and *E. mediterranea* as the same species. Following out this idea he included the plant which I



A GROUPING OF ERICA MEDITERRANEA.

permanent injury. It flowers in June, and is a native of the mountainous country to the north of the Mediterranean, especially about Mentone.

THE DWARF HEATHS.

E. carnea.—The dwarf Heaths can, of course, be used very differently from the more tree-like species that have just been described. As a carpeting beneath other species of sparsely planted shrubs, for furnishing sloping banks, or for growing on the small terraces of the rockery they are equally useful, and of all these dwarf Heaths more can, I consider, be said in favour of *E. carnea* than of any other species. It is not only absolutely hardy, but it flowers with astonishing freedom at a time of year when flowers are particularly cherished. The advent of its first flowers is, of course, somewhat dependent on the weather, but frequently one may see its bright rosy red bells almost as soon as January comes in. By the end of February the entire plant is a mass of

have already alluded to as a form of *E. mediterranea*, and which is found in Western Ireland, in his "Flora of Britain" as a form of *E. carnea*. Possibly he was right from the botanist's standpoint, but the plant grown in gardens and nurseries as *E. carnea* is quite distinct from *E. mediterranea*. It is usually not more than 6 inches to 8 inches high, and is a native of the mountains of Central Europe.

E. cinerea.—Over almost the whole of these islands, from the Highlands of Scotland to the moors of Devon and Cornwall, this Heath occurs in greater or less abundance. During the late summer and early autumn (it flowers from July onwards) it covers miles of Exmoor with its bright purple blossoms, being mostly associated with one of the dwarf autumn-flowering Gorses (*Ulex Gallii*). In gardens it has produced several forms, the two most brilliantly coloured of which are called *atro-sanguinea* and *atropurpurea*. But all the forms of this Heath are beautifully coloured. It

produces, indeed, some of the loveliest colours that are to be found among the hardy species, and they range from white to crimson. It is a plant that loves the cool pure mountain air, and on hot, sandy soil in the Thames Valley is short-lived. At the same time it thrives admirably in gardens where a moist, cool bottom can be given it and where the air is pure. Altogether it makes an admirable succession plant to *E. carnea*.

(To be continued.)

FIG CULTURE OUT OF DOORS AND UNDER GLASS.

(Continued from page 415.)

VARIETIES UNDER GLASS.

BROWN TURKEY.—An old well-known variety, and for general purposes still the best.

Negro Largo.—A black variety of large size, highly flavoured, flesh pale red, very tender and juicy; a good cropper and grower; one of the best of the dark varieties. It should have a limited root area.

Pingo de Mel.—This is a yellow fleshed variety of great excellence. The fruit is large, and as regards flavour it is one of the sweetest of all and one of the earliest.

White Marseilles.—This, one of the oldest, is still amongst the best. It is hardy, a good grower, bears freely; the fruit is a good size, the skin pale yellow-green, and the flavour rich and excellent; succeeds well out of doors in suitable localities.

The above enumerated varieties are the best for planting out under glass. Those more suitable for pot culture will be given in the article treating of this subject.

Approximate Table of Temperature for the forcing and growth of the Fig under glass.

	Day maximum. Degrees.	Night minimum. Degrees.
November ..	from 50 to 55	from 40 to 45
December ..	" 54 " 58	" 45 " 48
January ..	" 54 " 58	" 48 " 51
February ..	" 58 " 61	" 49 " 54
March ..	" 58 " 63	" 54 " 60
April ..	" 60 " 64	" 55 " 60
May ..	" 60 " 68	" 57 " 63
June ..	" 67 " 74	" 60 " 65
July ..	" 68 " 75	" 60 " 65
August ..	" 66 " 75	" 60 " 63
September ..	" 64 " 73	" 57 " 60
October ..	" 57 " 68	" 55 " 59

The above table indicates only the temperature which should be approached to as near as possible in the absence of sunshine and in ordinary weather. In the case of stormy or very severe weather it is better to let the temperature fall slightly lower than the above rather than force the trees too much. In brilliant and warm weather the temperature may remain for a time considerably higher than the figures given and fire-heat more or less dispensed with.

FIGS OUT OF DOORS.

Few, if any, of Worthing's attractions are more noteworthy than its Fig Gardens, of which perhaps the most interesting are those at Tarring, a small, and once isolated, village, now almost a part of West Worthing. The industry of Fig culture in Britain may be said to be centred in Worthing, though how this neighbourhood should come to possess the most extensive Fig orchards it is hard to say. There are other localities upon the south coast that one would imagine to be equally well suited for Fig culture, yet the fact remains that the majority of home-grown green Figs sent to Covent Garden Market come from Worthing, and these are all grown in the open.

Those who have never had an opportunity

of visiting the Worthing Fig orchards would be astonished to learn of the size, age, and vigour this tree attains there. Even in cottage gardens in the immediate neighbourhood the Fig tree thrives remarkably well. It is in and around the village of Sompting that the chief market supply of Figs is obtained. The trees are here planted in groves, irregular now because some have died and been replaced by younger trees, and many of them are 20 feet high and as many through. They are not allowed to grow higher than this, otherwise the labour of gathering the fruit would be increased. On an average the trees are about 80 years old, some there are of considerably over 100 years of age, whilst others are appreciably less.

It is surprising to learn how little attention these Fig trees receive beyond the removal of branches when they are quite close to the ground, and therefore almost useless and very inconvenient by reason of their preventing access to the centre of the tree, so essential during the gathering of the fruit; dead or unfruitful wood has also, of course, to be cut away. They receive practically no manure, yet it is but rarely that a satisfactory crop of fruit is not produced by these remarkable and aged trees, although some seasons are more conducive to a full crop than others. Late spring frosts do considerable damage sometimes when the fruits are quite small.

Only one crop of fruit is obtained each year, and gathering commences about the second week in August as a rule, and is not really over until the middle of October, although the fruits gathered then will not be so fine as those picked earlier in the season. The year 1901 was a record one so far as the quantity of produce is concerned. One large firm, in fact the largest Fig growers in the neighbourhood, sent to market 1,000 boxes or more of Figs, whilst the record of the best year previously did not exceed 700 boxes. As each box contains seven dozens of fruits, it will be seen that the total number does not fall far short of 100,000 Figs. These are forwarded principally to Covent Garden and Brighton, although many are disposed of locally. In these Fig orchards there are some wonderfully fine old Medlar trees, 30 feet or 40 feet high, apparently as old as the Fig trees themselves, and almost equally as productive. They become practically covered with fruits. These also are easily disposed of at Covent Garden.

The Tarring Fig Gardens are, as previously mentioned, now practically within the town of Worthing, so quickly has the latter extended of late years. They are extremely quaint and interesting, and are half an acre or so in extent. A narrow central walk and side walks are connected by intersecting ones, so there is nothing at all elaborate in the design. The central pathway is bordered on either side with picturesque old trees that have a delightful and unique effect. The branches extend over the path to such an extent that in some places they almost meet. In the large irregular square beds formed by the surrounding walks are also Fig trees, and many of the specimens are of great age and vigour. On a hot summer's day the Tarring Fig Gardens make a delightful retreat; arbours of Fig trees, formed almost without the help of human hands, are not infrequently met with as one makes the round, everywhere the cool restful green of the Fig leaves meets the eye, and fruits abound wherewith to quench the thirst and satisfy the palate.

These gardens have a peculiarly interesting history, as the following extract from an old local book, "Sussex Industries," will show:—

"The Tarring Fig Gardens, as a garden, date back to the year 1745, but an old gnarled tree standing in the middle, well propped up on all sides and stretching its partly bare branches upwards (it was struck by lightning some years ago and split partly in two), is said to have been planted by Thomas A'Beckett himself. This tree still bears occasionally. It is on record that the sainted Bishop of Chichester, Richard de la Wych, grafted fruit trees at Tarring with his own hand, and it is presumed these were Fig trees. The Tarring Fig Gardens can show a plantation of 100 to 200 trees, and 2,000 dozen excellent fruits or so are produced annually, besides a mass of small ones. In summer the garden looks thoroughly un-English. Dense foliage produces deep shade, which adds to the picturesque effect, giving fictitious length to the walks and making the half acre assume the proportions of a forest. The trees are not allowed to grow high, nor are the branches thinned, the object is to produce a mass of overshadowing foliage. They like heat, but not exposure to the sun. The manure is put on sparingly in spring and in a fluid state. Of several varieties grown White Marseilles is the most valued and luscious. The variety Ischian is said in hot summers to ripen to a brick-red colour, and is supposed to be identical with the historic red Fig which King James tasted with pleasure in the Dean's garden at Winchester. Brown Turkey is also grown. The harvesting or picking of the Figs begins early in August and continues to the end of October. During that time from 30 to 100 dozen are gathered daily and disposed of in Worthing, Brighton, or London."

Far better prices are now obtained for Figs than was the case some years ago. Whereas then 3d. or 4d. per lb. would have been considered a fair price, the growers of to-day are content with nothing less than 8d., and more is often realised. This is a curious and so far as I know an unique circumstance. With every other market fruit it will be found that an increased demand has been met with such a largely increased supply that prices have gone down as a result. With the Fig, however, the fact apparently is that the demand has of late years considerably increased, but the supply has not done so proportionately, and prices therefore, instead of falling, have gone up.

GARDENING OF THE WEEK.

INDOOR GARDEN.

GARDENIAS that are growing in 4½-inch pots and are full of roots should be repotted into 8-inch ones, after which pinching should be discontinued. Later rooted cuttings in small pots should be kept near the glass and pinched occasionally in order to form bushy specimens. All cut-back plants that have made growth from 1 inch to 2 inches long should be repotted into larger pots, using a compost of equal parts turfy loam and peat, adding bone-meal, charcoal, and coarse silver sand. When growing Gardenias require a moist, warm atmosphere, and frequent syringings over head. After growth is completed they may be more fully exposed to the sun and removed to a cooler temperature. A close watch must be kept for insect pests, and measures taken to eradicate them. Mealy bug and scale are the most troublesome. Green fly and red spider may be kept at bay by syringing.

AZALEA INDICA.

These plants may be placed out of doors to ripen their growth and set the buds for next season's

flowering. A sunny sheltered position should be chosen, and if possible plunge the pots to about half their depth in coal ashes; this will keep them firm and the roots cool during summer. *Ericas* and *Epacris* that have finished growing may be treated in a similar manner. When such plants as *Azaleas*, &c., are first placed out of doors they should be shaded for a short time as the tender foliage is apt to get scorched when placed in the full sun. *Azaleas* are liable to the attacks of red spider and thrips; frequent syringings with soot water will materially help the growth and keep these pests down.

CAMPANULA PYRAMIDALIS.

Plants in bud may be placed indoors, and the application of liquid manures as previously advised must be continued. Seedlings are now making rapid progress and may be placed in larger pots as they require it. *Begonia Gloire de Lorraine* and allied ones are rooting rapidly, and should be transferred to larger pots. A compost suitable is one consisting of two parts fibrous loam, with the fine particles shaken out, one part leaf-soil, one of peat, and a good addition of dried cow manure and silver sand. Attention should be given to the drainage. Keep the plants in a warm, moist atmosphere, and shade them from strong sun. A successional batch of cuttings should now be put in, following the method advised in previous notes.

POINSETTIA

that are rooting in propagating frames should be inured to light and air by gradually tilting the frame top. These plants should not be checked in any way or they will be stunted; they must be treated judiciously with regard to watering at all times or the foliage will be lost. Insert cuttings as they can be obtained.

CYCLAMEN PERSICUM.

As soon as the pots are well filled with roots, and before they become root-bound, transfer the plants to larger pots. If manures are applied in a weak state at frequent intervals, when the pots become filled with roots, it will obviate the necessity of using large and unsightly pots. Pull off the lights entirely on fine and warm nights. The night dews are most beneficial to these plants.

JOHN FLEMING.

Wexham Park Gardens, Slough.

THE FRUIT GARDEN.

MELONS.

THE cold dull weather has not been favourable to plants in frames. When in flower a comparatively dry atmosphere must be maintained, as a close, moist one is very detrimental to a good set of fruit, as is also dense growth; these conditions are also liable to produce canker. The laterals should therefore be well thinned from the time the plants are planted out. Give the plants a thorough watering before the flowers expand to carry them over the flowering season; fertilise the blossoms and stop the growths at one leaf beyond the fruit. Once sufficient fruits are swelling increase the atmospheric moisture by syringing the plants at closing time on fine days, and give good supplies of weak liquid manure, avoiding wetting the soil near the bases of the plants. The demand for water will, however, be regulated by the condition of the weather, and must be supplied accordingly.

LATE MELONS.

Where late Melons are valued seeds should be sown at intervals until the end of July, and the plants in due course be planted upon firm ridges of rough compost, made upon warm beds in structures well supplied with artificial heat. These late crops which ripen their fruit while the days are shortening should be allowed ample space; expose the foliage to the sun and air so that it and the stems of the plants may be firm.

EARLY PEACH HOUSES.

When the trees are cleared of fruit the houses should at once be thoroughly syringed to free the foliage from dust and red spider, which sometimes secures a foothold when the fruit is ripening, and should aphids be present fumigate with XL All



ERICA CINEREA ALBA.

compound. Subsequently syringe daily to keep the trees clean, and if water was withheld from the borders during the ripening period, as it should have been, a good soaking sufficient to thoroughly moisten them throughout should now be given. A dry rooting medium at any time is harmful, but at this stage when the buds are being developed for next year's crop it is particularly so. These remarks, of course, refer especially to inside borders, which should also be, if it is necessary, replenished with mulching material. The trees should now be relieved of useless wood by cutting away such as has produced fruit and can be replaced by young shoots. The house should be thrown open to its fullest extent and kept as cool as possible, and if it can be done remove the lights when the leaves begin to fall.

BANANAS.

These plants require plenty of heat and moisture at both the roots and in the atmosphere, with liberal supplies of liquid manure, soot, or artificial fertilisers. Plants in tubs will require more frequent attention in this way than those planted in borders. During the brightest days a slight shading will be beneficial. Large clusters of fruit should by some means be supported, as they are liable, after the fruit has become weighty, to suddenly break off.

LATE TOMATOES.

Sow seeds in gentle heat and grow the plants on in a light airy position, ultimately planting them out in a light house with a southern aspect and freely ventilated. The cordon is the most simple and indeed the best mode of training; closely pinch the side growths, carefully preserving the flower clusters. It is not advisable to use a rich compost, one consisting of ordinary loam and mortar rubble answers admirably; should the loam, however, be poor add a little bone-meal.

T. COOMBER.

The Hendre Gardens, Monmouth.

THE KITCHEN GARDEN.

POTATOES.

COMPLETE the earthing up of all late planted crops as soon as possible, and the haulm of the early plantations which are intended to produce ideal tubers for exhibition should be supported in an upright position by thrusting in stakes at intervals and stretching lines of stout cord along them so

that the sun and air can play about them. Frequent dustings of soot should be applied to the crop in showery weather.

LETTUCE.

Keep a good portion of this important crop tied up, using broad pieces of bast for the purpose, and should the weather be dry give an abundance of both clear water and liquid manure, taking care that the latter does not come into contact with the leaves. The more rapid the growth the better will be the quality. Sow frequently and transplant small quantities in various parts of the garden. Sutton's Mammoth is an excellent variety for this season; it is large, of good flavour, turns in quickly, and requires but little tying.

ONIONS—SPRING SOWN.

Those raised under glass and planted out and intended to produce large bulbs should now be growing rapidly, but they will require much assistance in the way of artificial and liquid manure, and thorough drenchings of water must be given both at the roots and overhead during hot and dry weather. Continue to apply sprinklings of fresh soot during early morning, carefully watch for any traces of mildew, and should the slightest sign of it appear remove all affected parts and burn them. Take immediate steps to prevent its spreading, which it does with alarming rapidity if allowed to go unchecked. Seedlings that have been partially thinned may now be safely left at their proper distance. In the case of any badly affected with maggot it will be wise to leave them at least as thickly again as one would in the ordinary way. Fortunately the Onion fly does not seem to be so troublesome as it has been during the past few seasons. Keep the soil constantly stirred between the rows, and dust often with soot, wood ashes, and artificial manure in equal proportions.

SHALLOTS.

Those which were planted early will have practically made their growth by now. Immediately this has fallen down lift the bulbs and place them to dry and ripen in a sunny position, but in case of a long spell of wet showery weather these are best placed on the stages in cool houses, or even cool pits or frames where they can be kept dry.

CAULIFLOWER AUTUMN GIANT.

Many of the plants from the earlier sowings have proved blind this season, which is no doubt owing to the severe check the plants received during early spring when they should have been

growing freely. These should be carefully looked over, and every one which is so afflicted removed, and any spare plants remaining in the stock bed lifted with as large a ball of earth as possible, planted firmly, and kept watered for a few days to replace them.

BRUSSELS SPROUTS.

Another good plantation of these should be made as soon as possible on precisely the same lines as advised for the first plantation. E. BECKETT.

Aldenharn House Gardens, Elstree, Herts.

NURSERY GARDENS.

TUFTED PANSIES AT TAMWORTH.

AN annual pilgrimage to Tamworth in the early summer is an event that one always looks forward to with pleasure, as each succeeding year shows advance in the popular tufted Pansies (Violas), which do so much to brighten our hardy flower garden during several months of the year. Our Viola specialists in the past relied largely upon the efforts of both amateur and professional gardeners for their new sorts, and to these enthusiasts we are much indebted for the many good varieties that now find public favour. Methods change, however, and as an instance of this Mr. William Sydenham—than whom there is no more enthusiastic grower of these plants—raises the bulk of those sorts which so many gardens throughout the United Kingdom possess. This trade specialist has set himself the task of raising new and improved varieties, and in this particular it must be admitted he has been singularly successful. Mr. Sydenham rightly regards the question of habit of the plants as of first importance, and would combine a profuse flowering tendency with colour and substance of the blooms as other important traits. It is really astonishing how great has been the progress during recent years.

Visitors can see at Tamworth the difference between the old and new favourites. With very few exceptions indeed the newer varieties completely eclipse the older ones, and while being grateful for the charm the latter have given to our gardens in the past we can confidently look forward to great things in the near future as a result of present day efforts.

Thousands of seedlings are raised each season at Tamworth of white and yellow colours. It is difficult to conceive a more interesting occupation than that of looking through a large collection of seedling plants. On the occasion of our visit those developing blossoms of a yellow colour were largely in evidence, and among these seedling plants we noted flowers ranging from a bright glistening yellow to that of an intensely rich orange-yellow colour. The form of the flowers was very good, and their substance should not fail to satisfy the most fastidious. The white sorts and the fancy edged flowers had some delightful representatives, and another season will see many of the best, which, by the way, are, compared with a very high standard of quality set up in other good things, catalogued for the benefit of those who find pleasure in growing the Violas.

It is curious to note how the old-fashioned rayed flowers are being superseded by the new rayless kinds, and they also have the charm of being delightfully fragrant. A few of the more striking sorts among the large number of really excellent tufted Pansies were:—

Admiral of the Blues.—The finest break in blue flowers we have seen for some time. It may be described as a deep blue, deeper than most others, having a neat yellow eye. It is a good all-round flower. There is room for improvement in its habit, although for exhibition this is not considered essential.

Andromeda.—This is a 1900 seedling which has unfortunately, been little seen. It is a very large

bright yellow, paling somewhat towards the edges, and has a much deeper shade of yellow on the lower petal. The plant has a good tufted habit and is free flowering.

Bland G. Sinclair.—A seedling of 1901, and distinctly useful for bedding. It is a bright yellow flower, very free, developing a dwarf and creeping-like style of growth. It is highly thought of as a bedding variety.

Calliope.—This is a seedling from A. J. Rowberry, and a vastly improved form of that much prized flower. The colour is rich yellow, suffused orange around the eye, and is a most effective flower. The habit is distinctly ahead of that possessed by the parent plant, and is described as "good."

Cream King.—Of all the cream-coloured Violas in cultivation this deserves the place of honour. It is a great advance upon Primrose Dame. The flowers, which are of much substance, are very large, of circular shape and good form, and also rayless. The plant has a very good habit, and, like several other plants of this kind, is benefited by having the strong centre growth pinched out. The beauty of the flowers is enhanced with the neat orange eye of this variety.

Crimson Bedder.—Although described as a tufted Pansy or Viola, this is really a form of the ordinary bedding fancy Pansy. It has been much admired for its bright crimson-scarlet colour, and there is little doubt it will become a popular plant. It has a dark blotch similar to that seen in a fancy Pansy and is very effective.

Crown Jewel.—A flower somewhat similar in its markings to that of the Countess of Kintore, but in this instance the colour is much brighter and also better defined, it is purple-blue on a white ground. Its habit is better than most of this type.

Edward Mason.—A beautiful flower, very refined, pure white, with a yellow eye and rayless. It is a most satisfactory white variety, being a very free bloomer, and with an excellent habit. It is at its best in very hot weather.

Seagull.—A gem of the season of 1901. This is another pure white rayless flower with a yellow eye, and may be classed among the most floriferous plants of this kind. Very fine in every way, with a charming bedding habit. Pinch out the centre growth and as a result a grand tuft develops.

Orangeman.—This was described as a seedling from A. J. Rowberry, and develops very large circular rayless blossoms. The flowers are a very rich yellow, and the plant is one of considerable promise.

White Dot.—This develops a mass of miniature pure white blossoms, and is invaluable during hot weather. Either massed or as an edging to a large border it is most effective.

Pigmy.—Like the last mentioned this is a miniature flowered Viola, and flowers profusely, the plants being of splendid constitution. The colour is a deep blue with a neat yellow eye, and rayless.

D. B. C.

BOOKS.

Gardening for Beginners.*—This now well-known book for beginners has reached a second edition, and an opportunity has been taken of adding to it no less than sixty-four pages of matter useful to those who know not the mysteries of gardening. One chapter will, we think, be much appreciated, and that is "English Names for Wild and Garden Flowers," and many pages are devoted to explaining certain garden terms likely to perplex the beginner, such as "Forcing," "Hybrid," and so forth. "Odds and Ends" will be helpful, as this chapter consists really of certain questions frequently asked by amateurs, and here answered, such as how to get rid of scum on a pond, the use of sticks and stakes, &c. Other chapters concern the "Quick Effects by Spring Planting," "How to

* "Gardening for Beginners." By E. T. Conk. Second Edition. Country Life Library. Published at 20, Tavistock Street, and by George Newnes, Limited, Southampton Street, Strand.

Make and Crop a Kitchen Garden," "Cacti for the Amateur," &c. This book should satisfy those who know nothing of gardening; it is quite a beginner's guide.

MAKING A VINE BORDER.

DURING recent years the methods of making Vine borders have undergone considerable changes, or perhaps it is that a practice which has long been in vogue with some gardeners is now more generally followed, and with advantage. When one intends to plant a vine, and it becomes necessary to make a new border, it is a great mistake to make up the whole of the border at once. It is only reasonable to suppose that if the latter is, say, 10 feet wide, the Vines cannot possibly fill all that space with healthy roots for several years to come; it would, therefore, be folly to utilise a great deal of new and valuable soil in making the border that could not possibly benefit the Vines for at least two or three years, at the end of which it would certainly not be in so sweet and wholesome a state as was the case when it first was put there, and most probably it would be in such a condition that the roots of the Vines upon reaching it, instead of making headway, would gradually die back. If a firm mass of soil, such as a Vine border is, is placed in a glass house where a certain amount of heat and moisture prevail throughout the greater part of the year, it must, especially when not permeated by living roots, soon become sour, damp, and probably waterlogged.

When forming a border in which to plant young Vines do not, therefore, make it larger than is absolutely necessary for the first season, because it can very easily be added to later. This is one of the great secrets of success in the culture of the Vine. Always endeavour, by adding continually to the border (by enlarging it so long as this can be done, then by top-dressing), to provide the roots with a certain amount of fresh and sweet soil, for nothing will encourage them to grow more, and of course the more energetic the roots the better will be the results above ground. Presuming the Vines to be quite young ones when planted (say, twelve months old) the width of the border for the first season need not be more than 3 feet, such an one will contain quite sufficient nourishment wherewith to support and encourage the growth of the young canes. In succeeding years it will, unless the Vines are making exceptionally vigorous growth, not be necessary to add more than this amount. It is far better to give too little than too much, for more can always be added, and one can always have recourse to stimulants if extra nourishment is needed. And now for the method of making the border. As the Vine is a vigorous and free growing plant when in a healthy condition, it follows that when in full leaf very large supplies of nourishment are necessary, and these are obtained in solution, that is, by the medium of water. It will, therefore, be quite apparent that the Vine border must be thoroughly well drained, otherwise large quantities of water cannot be safely administered, for instead of benefiting the plant and the surplus being carried away, this latter would remain and eventually render the soil sour and unwholesome.

It is important to avoid, if possible, erecting the viney on low, damp ground, for not only would this entail some expense in extra drainage, but there would always be the danger of the Vine roots reaching the cold, damp subsoil, an occurrence that would probably cripple them altogether. Presuming, however, that the situation is not unduly low and damp, good drainage is still most essential. If the ground has a natural gentle slope so much the better; indeed, such a position would be an ideal one for a Vine border. If, however, such a site should not be available, much can be done to improve matters by making use of a few small drain-pipes. These should be placed in parallel lines about 4 feet or 5 feet apart, running towards and also slightly sloping to a main drain along the front of the house.

The depth at which these are placed should be

as nearly as possible 3 feet, for this we find to be quite deep enough for a Vine border. If it should happen that the only situation available is wet and low, it is advisable to concrete the bottom of the border so as to prevent the possibility of the roots getting down to the bad subsoil. It is, however, only when the conditions are quite unfavourable that such a precaution is necessary. Having fixed the drain-pipes, a layer of old broken bricks should be placed over the border to form its base. This layer should be 10 inches to 12 inches deep, for it serves as the real drainage. Over this is placed a layer of thick whole turves, with the grass side downwards. This is to prevent the smaller soil, which will compose the remainder of the border, from falling into and filling up the drainage. This is an important point, for unless the latter is kept perfectly clear and intact the excellence of the other portion of the border will avail but little. Having now, as it were, laid the foundation of the border, we will proceed to consider the preparation of the soil of which the border will consist. A. P. H.

(To be continued.)

A PRACTICAL METHOD OF COMMEMORATING THE CORONATION.

We do not know of a more practical way of commemorating the Coronation of the King and Queen, nor one more in touch with the well-known sentiments so often expressed by their Majesties, than that adopted by the committee of the Gardeners' Royal Benevolent Institution. We understand that the committee of this old-established charity, of which their Majesties the King and Queen are patrons, have decided to commemorate the Coronation by placing on the pension list for June 26 the eleven unsuccessful candidates who had previously been subscribers to the institution. The committee have also voted the sum of £5 to each of the unsuccessful candidates—thirteen in number—who had not previously been subscribers.—Communicated.

[We feel sure that the supporters of the Gardeners' Royal Benevolent Institution will heartily endorse the action of the committee and make the present memorable year remembered for the earnest endeavours of the charitable to celebrate the Coronation of their Majesties by thinking of the suffering and needy who, by their infirmities and poverty, are unable to enter with the same spirit into the rejoicings in celebration of a great event as those blessed with health, happiness, and prosperity. We hope the present year will be a year of good deeds as well as of rejoicings, and those interested in horticulture have an opportunity of showing practical sympathy by assisting the committee of the Gardener's Royal Benevolent Institution to accomplish their purpose.—Ed.]

SOCIETIES.

ROYAL HORTICULTURAL SOCIETY.

SCIENTIFIC COMMITTEE.

PRESENT: Dr. M. C. Cooke (in the chair), and Messrs. Odell, Saunders, Douglas, Veitch, Drs. Müller, Masters, and Rev. W. Wilks.

Pear leaves.—Mr. Saunders reported that the leaves submitted to him were attacked by the Pear mite *Eriophyes pyri*.

Fusarium Solani.—A letter was read from Professor Perceval in which he stated that he had proved experimentally that healthy Potatoes could be affected by this fungus. *The Narcissus Fly*.—Rev. W. Wilks showed specimens of the perfect insect *Merodon* which he had reared.

Diseased Fig.—A specimen was exhibited and referred to Dr. Cooke for report.

Iris, overgrowth of.—Miss E. Cocker sent specimens of *Iris squalens* which had apparently grown too fast and too vigorously, and in which in consequence the stems had snapped across from some injury.

Moth on Pear.—Mr. Perry sent specimen, which was referred to Mr. Saunders for report.

Tomatoes.—The same gentleman also sent specimens of diseased Tomatoes, which will be reported on later.

Apple leaves crippled.—Mr. Getting, of Ross, showed Apple leaves puckered and of a deep green colour. No aphid or fungus was visible. The specimens were submitted to Dr. Cooke for future examination and report.

Tomatoes.—Mr. Lumsden sent specimens of some grubs found in the stem of a Tomato, and which will be reported on later.

Cauliflowers.—Mr. C. Hooper sought information as to the reason why certain Cauliflowers on his farm were all good, whilst others in another situation failed to form a "curd." Without further particulars it was not possible to give a satisfactory explanation.

Insects injurious to Apple graft.—In reply to a question from Mr. Dunlop, of Armagh, the following letter was read from Mr. Saunders: "The beetle you sent me the other day, said to be the cause of injury to Apple grafts at Loughall, County Armagh, belongs to the weevil family, and is known as the Brown leaf weevil; its scientific name is *Phyllobius oblongus*. It is a well-known pest, feeding on the leaves and buds of various fruit trees; but I can find no record of its feeding on the bark. It is said to be particularly fond of attacking grafts, and, if it will feed on the buds, I can see no reason why it should not also feed on the bark, particularly when it is young and tender. It is recommended that the grafts should be smeared with grafting wax or clay to keep the insects away; but I feel uncertain whether this would not be prejudicial to the graft. These beetles can fly very well, but on a dull morning they might be shaken from the trees on to a white sheet. The eggs are laid below the surface of the ground, and the grubs feed on the roots of various plants, and undergo their transformation in the soil. The beetles emerge in the spring. It might be useful early in the spring to give a good dressing of kainit, nitrate of soda, or soot, which would be injurious to the beetle when it emerges in a tender state from its chrysalis and tries to make its way to the surface."

*The Raspberry moth, *Lampronia rubicella**.—The life-history of this insect is rather unusual; the moth emerges from the chrysalis in the spring, and the females lay their eggs in the open flower, the egg being laid just below the surface of the receptacle (the core of the fruit); here it feeds until the fruit is ripe, it then leaves its quarters and spins a small white cocoon in some place at the foot of the bush, frequently selecting the stool. It remains in this cocoon all the winter, and in the spring makes its way to the buds, piercing them and feeding within them in the manner which is so well known. The most effective remedy is to pick off the infested buds or shoots and burn them, taking care that the caterpillars do not escape during the operation. It has been suggested that it would be useful to throw dressings of ashes, or sand mixed with paraffin oil (one quart of oil to one bushel of sand), among the stools in the winter, but I should think it was very questionable if this was of any practical use. Raking away the earth and rubbish from round the stocks and then earthing them up again has been recommended.—G. S. Saunders.

Virescent Tulip.—Mr. Saunders showed a specimen in which the perianth segments were partially virescent, and in one instance from irregular growth the segment had been torn, the coloured portion uplifted with the growing stem, whilst the green portion remained beneath.

Cytisus Adami.—Dr. Masters exhibited fine specimens of this curious hybrid, showing both parental forms, and various intermediates proceeding from the same branch.

Roses dying.—Specimens were also exhibited wherein the upper shoots and the stock were dead or dying. The appearances were considered to be due to an overdose of strong manure.

Melon disease.—Further specimens were shown and submitted to Dr. Cooke for examination. Dr. Cooke remarked that as the fungus lived within the tissues of the plant remedial measures were of no use as preventatives. The plants should be burnt, the soil sterilised, and the house whitewashed and disinfected.

*Supposed wild form of *Lilium candidum**.—Dr. Masters showed from Mr. Sprenger, of Naples, specimens from the mountains of Calabria. The segments were smaller, narrower, and less recurved than in the ordinary cultivated form.

Fruit of the Tea plant.—Dr. Masters exhibited from Mr. Guttridge, the Botanic Garden, Liverpool, a specimen of *Thea Bohea* bearing a ripe capsule. Similar but larger fruits are not uncommon in Camellias, but are not so often met with. Mr. Odell remarked that he had frequently seen specimens.

Diseased Larch.—Mr. Elwes sent specimens for examination and report.

Diseased Vines.—Mr. Close sent specimens in which the roots were dying or dead. On examination it was considered that the mischief was due to an over-rich soil or to having been kept too long in a pot.

UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.

THE monthly committee meeting of this society was held at the Caledonian Hotel, Adelphi Terrace, Strand, on Monday, the 9th inst., Mr. C. H. Curtis in the chair. The minutes of the last meeting were read and signed. Four new members were elected, making a total of fifty-seven this year. The death certificate of the late Mr. J. N. Forbes was produced, and the amount standing to his credit in the ledger (£4 1s. 5d.) was directed to be paid to his nominee. Three members were reported on the sick fund. The amount of sick pay for the month was £9 12s.

EAST ANGLIAN HORTICULTURAL CLUB.

THE June meeting of this club was well attended, and a splendid display of flowers and vegetables bedecked the exhibition tables. Foremost among the exhibits, not for

competition, must be mentioned a choice collection of blooms from the herbaceous garden and flowering shrubs set up by Mr. G. Davison, Westwick House Gardens. Most prominent was a bunch of seedling *Genista andreaana*, which showed a diversity of colouring, a new seedling *Heuchera*, a great improvement upon the existing type both in length of spike and intensity of colour, single and double varieties of *Viburnum* and a grand spike of *Lilac President Grévy*. Mr. T. B. Field brought up some blooms of *Cypripedium parviflorum* grown by him at Ashwellthorpe, also a bunch of Austrian Briar and Fortune's Yellow Roses; these were very beautiful. In the competitive classes some grand varieties of herbaceous flowers were staged, the *Iris*es from Mr. J. Williams, gardener to Mrs. Louis Tillett, Catton, being very fine. Mr. W. Rush, gardener to F. P. Hinde, Esq., The Fernery, Thorpe, had the best plants of show and zonal *Pelargoniums*, and a grand collection of cut trusses of regal and show *Pelargoniums*, and Mr. D. Howlett had grand specimens of *Gloxinias*. An interesting discourse was given by Mr. E. Peake, head master of one of the Norwich Board Schools, and an ardent horticulturist, upon "The Scholar's Garden." The remarks were centred upon the desirability of infusing into the minds of the young generation a love for the beautiful, which in after years might be to their benefit and the brightening up of the surroundings of our towns, also a desire might arise for many to keep to the land who now made their way into towns. He found also that it was beneficial in their ordinary elementary education. Four of the largest public Board schools in Norwich were now working these school gardens, Mr. Peake being fortunate in having secured for his school a plot in the best park in Norwich. An interesting discussion was well maintained, members agreeing entirely with the principles laid down, and hopes were expressed that good progress in the work might be made.

COMMONS AND FOOTPATHS PRESERVATION SOCIETY.

A MEETING of the executive committee of the Commons Preservation Society was held at 25, Victoria Street, Westminster, recently, the Right Hon. G. J. Shaw-Lefevre presiding. Amongst others present were Lord Thring, Sir William Vincent, Bart., Sir John Brunner, Bart., M.P., Sir Robert Hunter, Mr. E. North Buxton, Mr. Percival Birkett (hon. solicitor), and Mr. Lawrence W. Chubb (secretary).

It was reported that during the current session the society had been able to secure the insertion of satisfactory clauses in upwards of thirty railway, water, and other Bills, with the result that over 2,000 acres of common land had been saved from absorption. The committee resolved to strenuously oppose the Swansea Corporation Bill, now before the House of Lords, on the ground that it involves an evasion of the Commons Act, since, under it, the corporation seek power to utilise for building and other purposes forty-eight acres of commonable lands known as Graig-Trewyddfa, situate in the borough. The proposed purchase, as a park, of a tract of forest land, 859 acres in extent, formerly part of Hainault Forest, Essex, and lying in the parishes of Lambourne and Chigwell, was further considered. Mr. E. N. Buxton stated that applications for grants were before the Essex County Council, the City Corporation, the Woodford Urban District Council, the Romford Urban District Council, and other local authorities. £7,500 had already been promised or received out of the minimum sum of £27,000 which was needed to complete the scheme. A hearty vote of thanks to Mr. Buxton for his efforts in the matter was accorded on the motion of Lord Thring, and it was determined to issue an appeal to members of the society and others for aid in carrying out as a permanent memorial of the Coronation a scheme which the committee unanimously felt was deserving of the assistance of all open space supporters. It was pointed out that the land is within twelve miles of the Bank of England, and that it is offered to the public at a far cheaper rate than that paid for any other metropolitan open space. The secretary stated that considerable indignation had arisen, owing to the fact that seven alleged public rights of way in the parishes of Hoo, Frindsbury, and Colling, Kent, had been obstructed on land owned by the Admiralty. The society resolved to co-operate with the local authorities in obtaining the removal of the obstructions in the event of sufficient evidence as to the public nature of the paths being forthcoming.

It was also determined to assist in securing the protection of rights of way at Leagrave, Beds, Saddleworth, Yorks, and elsewhere. Approval was given to a petition from the society to the House of Commons praying to be heard by counsel against amendments being allowed to the New Forest (Sale of Lands for Public Purposes) Bill. As its suggestions had been adopted in framing the Bill the society had informed the Government that while it would not object to the Bill in its present form, it would vigorously oppose any proposal for the extension of power authorising the alienation of forest lands. It was resolved to co-operate with the Metropolitan Public Gardens Association and the other open space societies in taking such steps as may be necessary to secure the better protection of disused burial grounds.

Harrow Horticultural Society.

The annual show takes place on Tuesday, July 8 next. There are several interesting Rose classes, in which good prizes are offered.

Southend Rose Society.—This society will hold its show on July 12 next in The Shrubbery, Southend-on-Sea. The hon. secretary is that well-known exhibitor, the Rev. F. R. Burnside, Great Stanbridge Rectory, Rochford, Essex.

Jardin Alpin d'Acclimatation Geneva.—M. H. Correvon informs us that this alpine garden is about to be transferred from Plainpalais to Floraire, Chêne-Bourg, which is reached by tram from Geneva in a quarter of an hour. A general illustrated catalogue, containing instructions as how best to reach the garden, will be published, and copies sent to all clients. October 1 next is the date of the opening of the new garden.

Ornamental memorial trees.—To commemorate the Coronation of King Edward and Queen Alexandra Mr. Hugh Dickson, Royal Nurseries, Belfast, who has recently been appointed nurseryman to the King, has generously offered to present to every charitable institution in Ulster a choice ornamental tree to be planted in their grounds. The offer held good until the 25th inst., and we are glad to learn from Mr. Dickson that many availed themselves of this opportunity. It is an example that might worthily be followed by others.

ANSWERS TO CORRESPONDENTS.

RULES FOR CORRESPONDENTS.

Questions and Answers.—The Editor intends to make THE GARDEN helpful to all readers who desire assistance, no matter what the branch of gardening may be, and with that object will make a special feature of the "Answers to Correspondents" column. All communications should be clearly and concisely written on one side of the paper only, and addressed to the EDITOR OF THE GARDEN, 20, Tavistock Street, Covent Garden, London. Letters on business should be sent to the PUBLISHER. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper.

Names of Plants.—Wychnor Park.—A species of *Ophrys* probably, but the condition of the little bit sent precluded all hope of determination. If you could send a complete plant with tuber intact, packed in moss in a small tin box we may assist you to a more definite way. —W. S. S.—*Phacelia campanularia*. —R. H. Eden. —Apparently a slight form of *Ulmus campestris*, but a small twig with no description of the tree is insufficient to positively determine, particularly in the case of such a difficult class of plants as this belongs to. —K. H.—*Azara microphylla*. —F. Frederici, Italy.—The large leaf is that of *Berberis nepalensis*, the next largest of *B. Aquifolium*, and the purple leaf of *B. vulgaris* variety.

Wireworms in turf (MRS. R.).—The only practical way of dealing with ground infested with wireworms when plants are growing on it is by trapping the pests by burying slices of Potato, Turnip, Mangold, or Carrot near the plants about an inch below the surface, examining them every morning, and picking out any of the wireworms that may be feeding on them. If a small wooden skewer be stuck into each bait, the latter will be more easily found and handled. Pieces of rape cake may be used for the same purpose, if broken up tolerably fine and sown broadcast over the beds. The rape cake may attract the wireworms from the plants, but it will not kill them. Ground that can be fallowed should be given a heavy dressing of gaslime. —G. S. S.

Trees in partial shade (TEMPS FUGIT).—For partial shade the Judas Tree (*Cercis Siliquastrum*), Laburnums, and *Pyrus coronaria* var. *floré-pleno* will be found to answer very well. Most of the small-flowering trees succeed fairly well if not overhung or their roots robbed by larger growing subjects near them, the full sun, of course, being best for them, but if they have light and air they will thrive and flower nearly as well as those that are fully exposed to the sun. For the more open portions of the piece of ground we should recommend trying the double Cherries, both pink and white, *Pyrus floribunda*, *P. spectabilis*, and *Amelanchier canadensis*. None of these grow very large, while in addition *Prunus Pissardi*, with purple foliage; *Laburnum vulgare* var. *foliis aureis*, with bright golden leaves; *Betula alba* var. *purpurea*; and *Quercus concordia*, the golden-leaved Oak, may be employed with advantage in the shade.

Lichen on Azaleas (M. R. W.).—To destroy lichen on various shrubs the best way is to place a few lumps of lime in a pail and slake with water, then thoroughly mix, and when it is about the consistency of paint apply to all the affected stems with an ordinary paint brush after the manner so often adopted by fruit tree growers for the extermination of insects that hibernate in the bark. The lime must not be applied while hot. Though Azaleas particularly dislike lime in the soil this application to the stems in the manner detailed above will not hurt them.

Laying out a new garden (REV. ROLLO MEYER).—It is a good plan, as suggested, to take note of the trees and shrubs that succeed best in the district. In the present instance the smallness of area is against trees of any size being planted, but for the South we suggest Limes as among the less rampant; failing this, a graceful and pretty tree is the Birch. For East and West a variety of things should include *Pyrus Malus floribunda* in standards, *Laburnum*, *Weigela*, *Lilac*, &c. In limited areas, and where borderspace is not easily given up to tree and shrub, try to create screen-

like effects by planting *Clematis Jackmani*, *C. montana*, *C. Viticella rubra*, and others, in conjunction with Rambler and Climbing Roses, to be trained above any partition fence, on wire mesh or its equivalent. These could be arranged nearest the fence, and the flowering trees already given in front and at intervals. Yew, Holly, Chinese Juniper, with *Cupressus lawsoniana* would be useful, and such moderate growing flowering shrubs as *Ribes*, *Forsythia suspensa*, and Mock Orange may also intervene in the breaks. Things to avoid are Privet, Portugal and common Laurels. For the rest, we may suggest at the southern end a plantation of *Magnolia*, such as *conspicua*, *stellata*, &c., and if possible with the double Pink Thorns (standards) behind or near to throw them into bolder relief. For borders, east and west, say 8 feet or 10 feet wide, wherein tall Michaelmas Daisies, *Bocconia cordata*, *Hollyhocks*, and such like could tower among the shrubs, and nearer the front Perennial Pea, *Phloxes*, *Pyrethrums*, *Pæonies*, Day Lilies, Japan Anemones, and a good general assortment in effective masses rather. Give a wavy outline to border and edge with *Aubrietia* or some such good showy plant. We expect a small central grass plot will be more or less necessary, but with beds of Roses in fine kinds, and the Daffodils and *Pæonies*, or some with *Genet* and Parrot and other Tulips there is still room for much beauty. A corner or two as you emerge from the house may be replete with Lavender, or, again, *Rosa rugosa* will the more quickly convert into home-like effect, and you should not omit the yellow and copper of Austrian Briar preferably as the southern end of the lawn is reached. *Azalea mollis* may be quite at home near or under the shelter of the *Magnolias*, and some of the choice *Berberis*, such as *stepophylla*, *Darwinii*, &c., may be helpful in other positions. There may be other details still, and the style of building may be suggestive of good groups to follow.

Rose growing by the sea (A. E., Eastbourne).—In the ninth edition of Mr. Wm. Paul's excellent work "The Rose Garden," the author gives several instances of Roses flourishing by the sea, and especially at Herne Vicarage, where Mr. Paul says he has never seen Roses in better health or finer bloom. This should be comforting to your correspondent "A. E.," who writes from Eastbourne. If locality is of no importance I would advise him to live upon a fairly high and sheltered spot in Hertfordshire or Essex. I have found Roses flourish best where the native Blackberry and Osk grow luxuriantly. If a garden could be secured in either one of the counties named, sheltered from the north and east by buildings, but preferably walls, also from the south-west gales, then he should be able to produce Roses of the highest quality. Rather than select a garden overshadowed by trees he would do well to secure a portion of meadow land and surround it by walls not too high. If his preferences were for Tea Roses he could produce these to perfection on the walls, whilst the Hybrid Perpetuals and Hybrid Teas would occupy the open part of the garden. If your correspondent's desire be to grow Roses exclusively he would find a new piece of land a grand opportunity to form an ideal Rose garden, and it would enable him to utilise many of the lovely rambler and pillar Roses without in the least interfering with the perfect culture of the exhibition varieties. —PHILOMEL.

Peach leaf blister (GREAT BRAMPTON and H. D. S.).—The Peach leaves sent show one of the worst forms of blister, as commonly called, but really the result of an attack of a fungus which in cold, dull springs invariably attacks outdoor Peaches more or less, especially where they are exposed on walls to keen cold winds. There does seem to be reason to think, judging by the gross and soft nature of the leaves, that the trees have been somewhat liberally fed, as even the wood shoot sent is soft and pithy. It is not possible to remedy the evil, except by picking off the very worst diseased leaves, then a few days later others, until after a third time all the blister is removed, burning all thus gathered. New leafage will soon form that will not be injured. Next year, if it be possible, endeavour to give the tree a little protection from cold by putting glass lights against it, with mats to close the ends. Sprayings will do no good, as the low temperature is the prime cause of the evil.

Wistaria from seed (PLANTER).—The Wistaria is easily raised from seed, which usually takes from two weeks to six weeks to germinate. It is also propagated by layers, and some of the rarer kinds are grafted on stocks of common *W. sinensis*, but seeds, if procurable, are the best. The most desirable Wistarias are *W. sinensis*, the common purple one; *W. sinensis* var. *alba*, with white flowers, but a rather shy bloomer; *W. multi-juga*, which bears racemes upwards of 3 feet in length, with flowers of a pale purple colour; and *W. multi-juga* var. *alba*, with rather shorter racemes of a pure white. Besides these there are *W. frutescens*, which has short, thick racemes of deep purple flowers; *W. frutescens* var. *alba*, with white flowers, and *W. l. var. magnifica*, which is a handsome form with deep purple flowers borne on long racemes. Most of our leading nurserymen send plants abroad during the year, hardy trees and shrubs going during the winter or early spring months. One firm has sent to America, India, and Australia annually for over fifteen years, and has received no complaints up to the present, but of course the packing has everything to do with the ultimate success of the plants.

Sowing seeds of annuals, biennials, and perennials (IGNORAMUS).—The chief thing to observe in the two first-named groups is that the sowing be done at the proper time. For example, it would be useless sowing a large number of annuals late in July or beyond that date, because if they flower at all prior to frost appearing in the early autumn not one-half of their beauty would be revealed. Biennials also require to be sown sufficiently early in the year that a good plant may be built up in that year, and so on. The whole thing resolves itself into one of proportion, and as concerns the time it takes to flower from the sowing more particularly. Perennials, such as named in your list, may still be sown, though it were better done three months ago. In the case of *Gentians* and other rock plants the former are usually of

uncertain germination, at times the seeds may remain dormant a couple of seasons, and at others, from a winter or early spring sowing, a good crop of seedlings may appear in the ensuing summer. This group is an exception, and quite a large number of rock plants, however, germinate both freely and quickly.

Iris germanica diseased (C. J. CORNISH).—The roots sent are afflicted with the common Iris disease. Pull up and burn all badly infected plants and cut away diseased portions of others only slightly affected. Next February spray the plants with a solution of potassium sulphurate, half an ounce to a gallon of water, again in March, and again in April. The substance is not harmful to use, and can be got from any chemist for a few pence.

Red spider on Vines (NEWMAN).—Sponging the leaves with soft soap and tepid water is the safest and most effectual cure for red spider in a vine. Where this is not practicable, sulphur fumes from heated pipes are one of the best antidotes.

Almonds diseased (J. R. W.).—The damage to the Almond tree foliage is caused by what is commonly understood as the "Peach tree blister." It is caused by a check to growth by cold weather, and is prevalent this year in consequence of the inclement season. As warmer weather comes on the trees should grow out of it, and the fruit suffer little or no injury.

Bottling Gooseberries.—In answer to one of your correspondents early in the year I send the following recipe for bottling green Gooseberries, which has always answered extremely well with us. Pick the Gooseberries, put them in bottles, fill up with cold water, and place in a slow oven until the fruit is tender but does not break. Then take the bottles out of the oven, fill them with boiling water, and cover securely with cork or bladder while hot. I have not tried the above recipe for green Peas, but I should imagine it would answer very well. —MAUD HEATON.

TRADE NOTE.

MESSRS. WOOD AND SON, Limited, Horticultural Specialists, Wood Green, London, N., have sent us particulars of some new designs in floral suspending baskets, one of which, known as

"The Queen," we are pleased to be able to illustrate. These hanging baskets are almost sure to be in great request this year, as they are indispensable to the best decorative work, and will be more particularly when the advantages of fertilising moss as a medium are more widely known. Soil may now be dispensed with, for the lightness of this moss and its freedom from anything unpleasant make it an ideal medium for hanging baskets. These new "Coronation" baskets are of polished copper and iron, and are of handsome appearance; the single stem suspender when the basket is furnished with plants looks far prettier than the ordinary three chains or rods which always give the impression of being out of character. Of course the three short rods are quickly covered by the foliage, and then nothing impedes the freedom of the plants. The oval pockets below the rim admit of plants being easily inserted in the fertilising moss round the basket. Other recent specialties of Messrs. Wood's are the Perfecta Spraying Syringe and the Muratori Hand Spray. The extremely fine mist-like spray this latter produces has proved to be highly beneficial to Orchids and other plants, especially when directed upwards so as to descend upon the plants in an almost imperceptible aerial dew. The Perfecta Spraying Syringe is one of the easiest filling syringes on the market; it sprays directly forward, or at any angle within an arc of 90° from the axis. It will of course spray at long range with the open jet.

NEW FLORAL SUSPENDING BASKET
"THE QUEEN."

CATALOGUE RECEIVED.

New Daffodils.—An interesting description of new Daffodils with prices.—J. Kingsmill, nurseryman, Sharow, Ripon.

